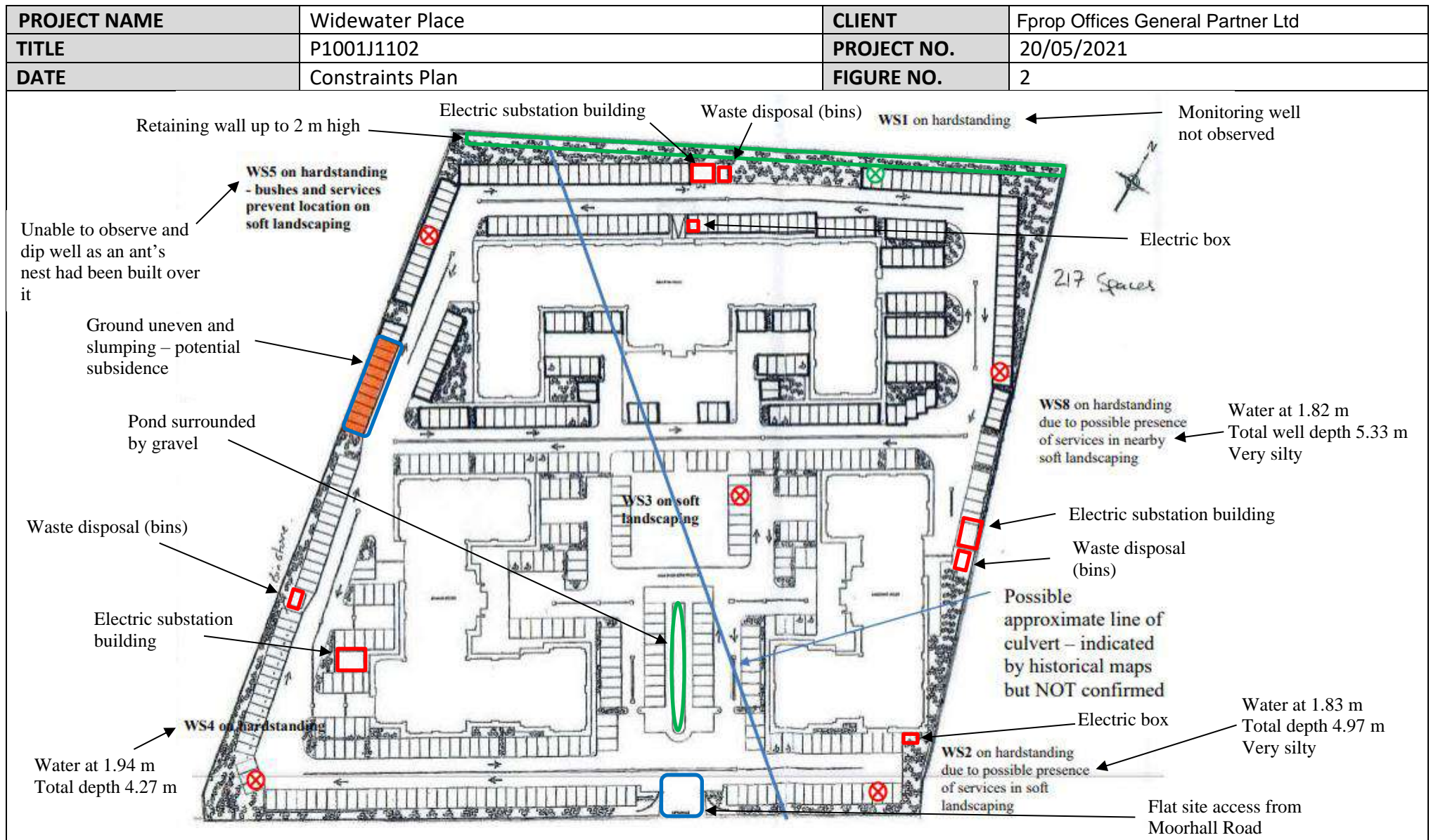


APPENDICES

APPENDIX 1 – FIGURES

PROJECT NAME:	Widewater Place	CLIENT:	Fprop Offices General Partner Ltd
TITLE:	Site Location Plan	PROJECT NO.	P1001J1102
DATE:	May 2021	FIGURE:	1





PROJECT NAME	Widewater Place	CLIENT	Fprop Offices General Partner Ltd
TITLE	Photo Plan	FIGURE	3

Photo 1: Site overview from Moorhall Road access.



Photo 2: Access to site from Moorhall Road.



PROJECT NAME	Widewater Place	CLIENT	Fprop Offices General Partner Ltd
TITLE	Photo Plan	FIGURE	3

Photo 3: Pond feature in centre of site, surrounded by soft landscaped gravel.



Photo 4: Drainage feature running throughout extent of car park.



PROJECT NAME	Widewater Place	CLIENT	Fprop Offices General Partner Ltd
TITLE	Photo Plan	FIGURE	3

Photo 5: Photo showing locality and height of trees in the middle section of car park.



Photo 6: View from south west corner of site looking north.



PROJECT NAME	Widewater Place	CLIENT	Fprop Offices General Partner Ltd
TITLE	Photo Plan	FIGURE	3

Photo 7: Electric building found in south west of site. Building appears the same as the other 2 electric buildings on site.



Photo 8: Example of uneven ground next to south-west electric building.



PROJECT NAME	Widewater Place	CLIENT	Fprop Offices General Partner Ltd
TITLE	Photo Plan	FIGURE	3

Photo 9: Prominent uneven ground along west boundary of site.



Photo 10: View from north-west corner of site looking east.



PROJECT NAME	Widewater Place	CLIENT	Fprop Offices General Partner Ltd
TITLE	Photo Plan	FIGURE	3

Photo 11: Portion of retaining wall running along the northern site boundary.



Photo 12: Example of waste disposal area on site.



PROJECT NAME	Widewater Place	CLIENT	Fprop Offices General Partner Ltd
TITLE	Photo Plan	FIGURE	3

Photo 13: Northern most building on site.



Photo 14: Café and landscape feature in centre of car park, with benches and picnic area.



PROJECT NAME	Widewater Place	CLIENT	Fprop Offices General Partner Ltd
TITLE	Photo Plan	FIGURE	3

Photo 15: Water supply on site near café.



Photo 16: View from north-east corner of site looking south.

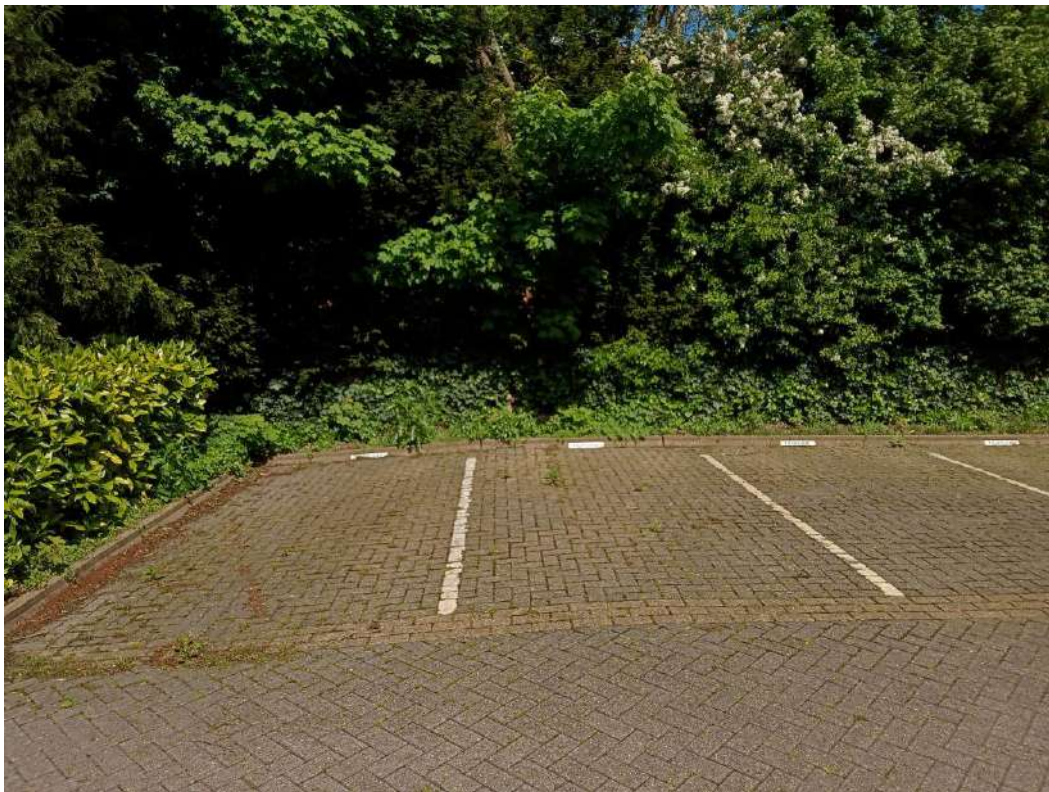


PROJECT NAME	Widewater Place	CLIENT	Fprop Offices General Partner Ltd
TITLE	Photo Plan	FIGURE	3

Photo 17: 1 of 4 monitoring wells observed on site.



Photo 18: Area of site where WS1 is located on map – no well observed on site.



PROJECT NAME	Widewater Place	CLIENT	Fprop Offices General Partner Ltd
TITLE	Photo Plan	FIGURE	3

Photo 19: View from WS8 looking west.



Project Name	Widewater Place	Client	Fprop Offices General Partner Ltd
Project No.	P1001J1102	Date	15 June 2017
Title	Exploratory location plan	FIGURE NO.	4

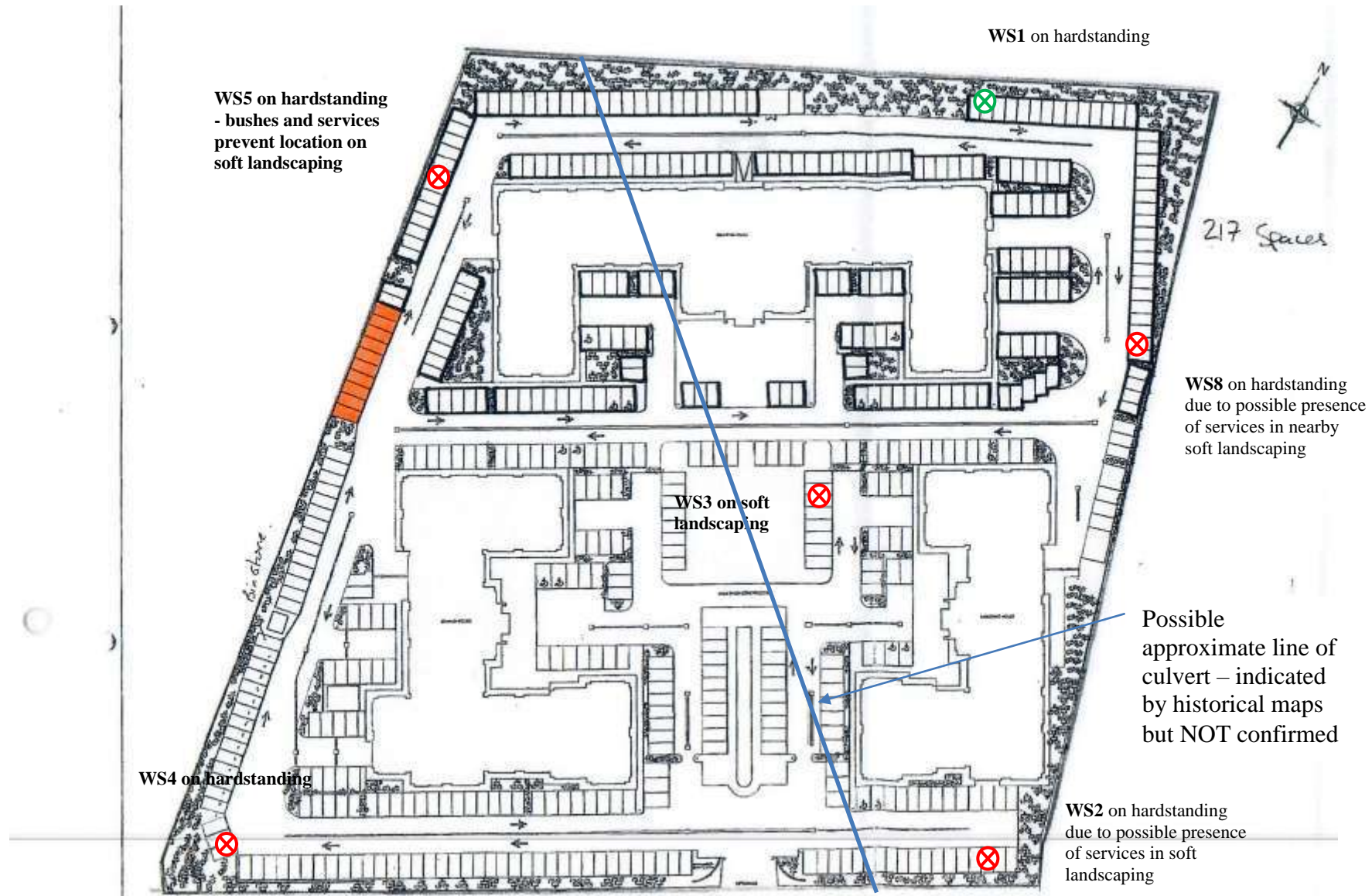


Figure 5: Proposed Development Plan (Chaplin House)



PRELIMINARY

THIS DRAWING IS NOT TO BE SCALED. ONLY FIGURED DIMENSIONS ARE TO BE FOLLOWED (UNLESS THE DRAWING IS PART OF A PLANNING APPLICATION). CONTRACTORS ARE TO CHECK ALL DIMENSIONS BEFORE WORK COMMENCES, AND REFER ANY APPARENT DISCREPANCY TO THE ARCHITECT.

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PROJECT Chaplin House, Widewater Place
Moorhall road, Uxbridge
London W1

DRAWING Proposed
Ground Floor, First and Second Floor
Plan

CH+MRP
ARCHITECTS

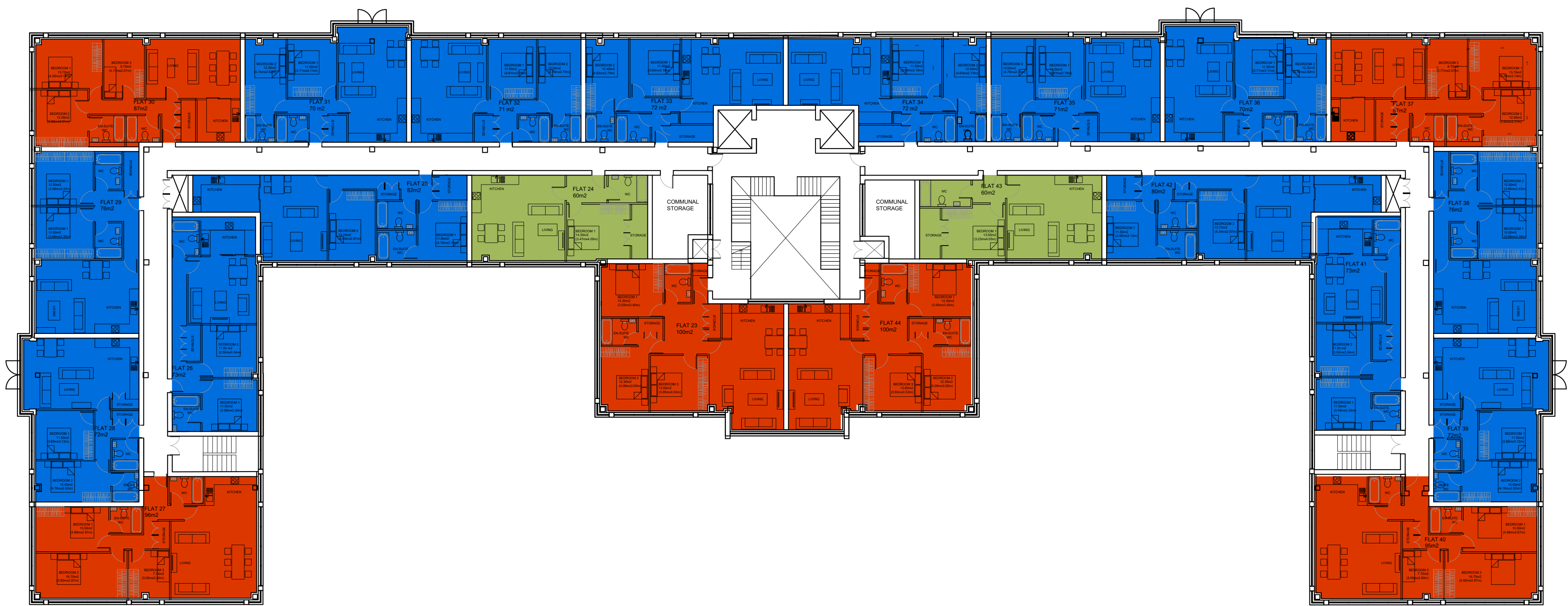
41-42 FOLEY STREET, LONDON W1W 7TS
T: +(0) 207 253 2526 / +(0)207 631 5405
E: mail@ch-architects.com / info@mrpartnership.co.uk
www.ch-architects.com / www.mrpartnership.co.uk

DATE:	11/05/2021	SCALE:	1:200@A1 1:200@A1	DRAWN:	CAD
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DWG No:	3155_20_105	REV. No:	/
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FILE: ChaplinHouse-rev1 -LIGHT ISSUES.dwg

Figure 6: Proposed Development Plan (Norgine House)



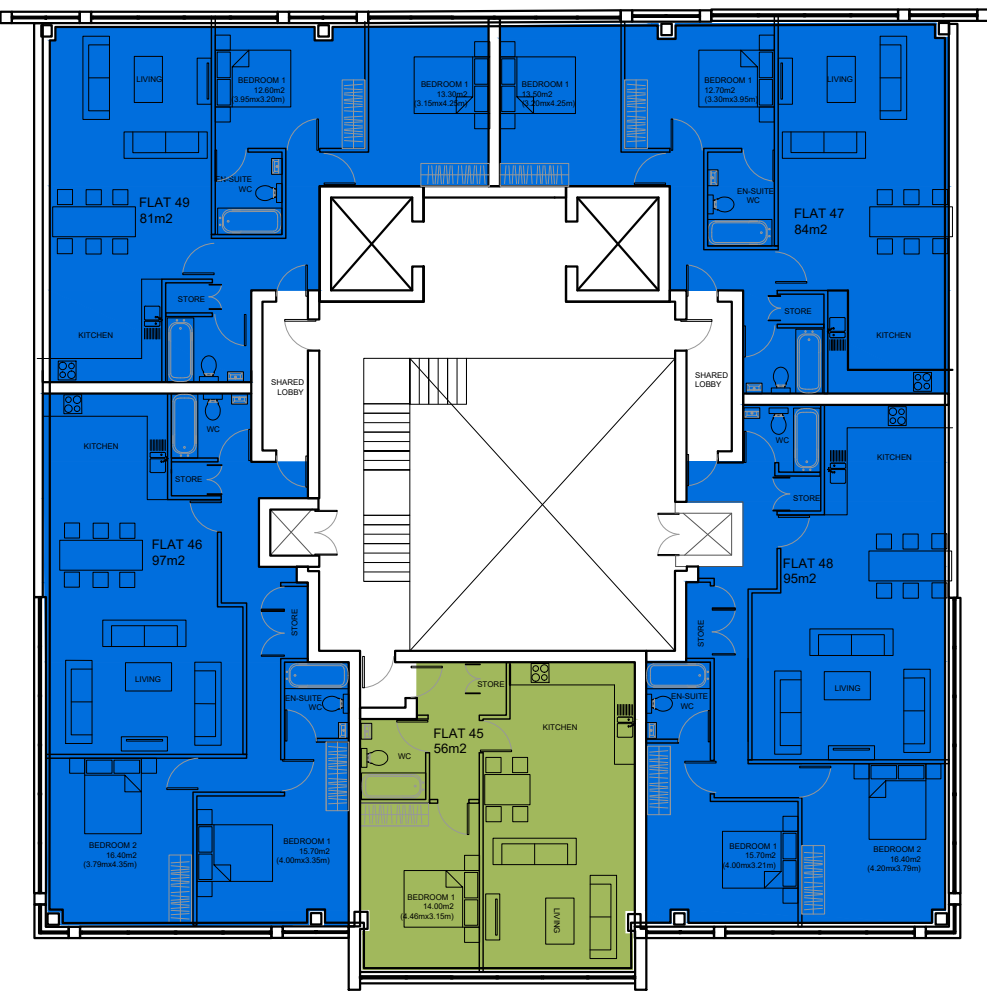
FIRST FLOOR x 22 APARTMENTS

14 x 2 BEDROOM APARTMENTS

6 x 3 BEDROOM APARTMENTS

2 x 1 BEDROOM APARTMENTS

GROSS INTERNAL AREA = 2240sqm

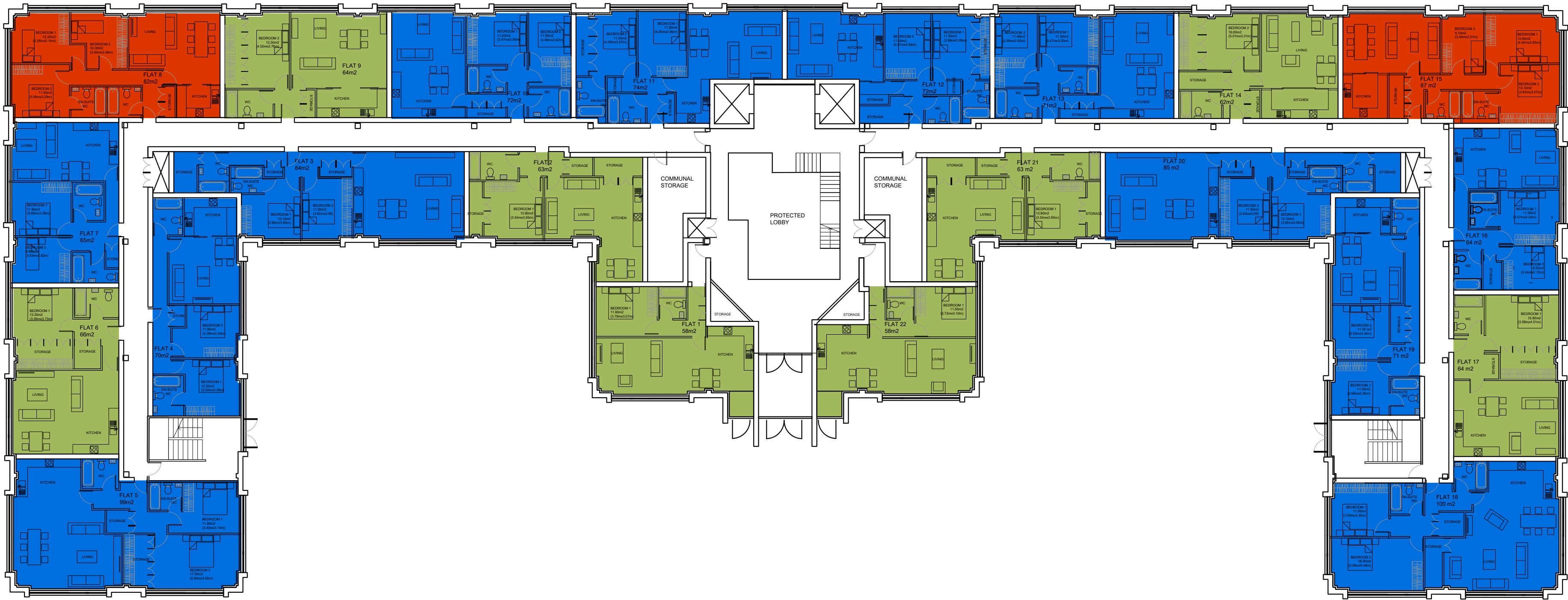


SECOND FLOOR x 5 APARTMENTS

4 x 2 BEDROOM APARTMENTS

1 x 1 BEDROOM APARTMENT

GROSS INTERNAL AREA = 580sqm



GROUND FLOOR x 22 APARTMENTS

12 x 2 BEDROOM APARTMENTS

8 x 1 BEDROOM APARTMENTS

2 x 3 BEDROOM APARTMENTS

GROSS INTERNAL AREA = 2200sqm

PRELIMINARY

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PROJECT Norgine House, Widewater Place
Moorhall road, Uxbridge
London W1

DRAWING Proposed
Ground Floor, First and Second Floor
Plan

CH+MRP
ARCHITECTS

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www.ch-architects.com / www.mrpartnership.co.uk

DATE:	11/05/2021	SCALE:	1:200@A1 1:200@A1	DRAWN:	CAD
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DWG No:	3155_20_104	REV. No:	/
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FILE: Norgine House-rev2-LIGHT ISSUU.dwg

Figure 7: Proposed Development Plan (Musgrave House)



PRELIMINARY

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PROJECT Musgrave House, Widewater Place
Moorhall road, Uxbridge
London W1

DRAWING Proposed
Ground Floor, First and Second Floor
Plan

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www.ch-architects.com / www.mrpartnership.co.uk

DATE:	11/05/2021	SCALE:	1:200@A1 1:200@A1	DRAWN:	CAD
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DWG No:	3155_20_106	REV. No:	/
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FILE: 3155-MusgraveHouse-rev2 -LIGHT ISSUES.dwg

APPENDIX 2 – GROUNDSURE DATA



Jomas Associates Ltd
Lakeside House, 1 Furzeground Way,
Stockley Park, UB11 1BD

Groundsure HMD-377-4002613
Reference:

Your Reference: P1001J1102-1

Report Date 20 Jun 2017

Report Delivery Email - pdf
Method:

Enviro Insight

Address: WIDEWATER, MOORHALL ROAD, UXBRIDGE, UB9 6NS

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Enviro Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on +44843 289 2187 quoting the above report reference number.

Yours faithfully,

Jomas Associates Ltd

Enc.
Groundsure Enviroinsight

Address: WIDEWATER, MOORHALL ROAD, UXBRIDGE, UB9 6NS

Date: 20 Jun 2017

Reference: HMD-377-4002613

Client: Jomas Associates Ltd



Aerial Photograph Capture date: 07-Jun-2015

Grid Reference: 505058,188836

Site Size: 2.61ha

Report Reference: HMD-377-4002613

Client Reference: P1001J1102-1

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Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	4	10	12	19
1.2 Additional Information – Historical Tank Database	0	1	3	0
1.3 Additional Information – Historical Energy Features Database	0	0	7	7
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	0	0
1.6 Potentially Infilled Land	2	33	14	21
Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	1	0
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	0	1	5	1
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	5	1
2.3.2 National Incidents Recording System, List 1	0	0	1	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	1

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency/Natural Resources Wales Registered Landfill Sites	0	0	0	0	0	Not searched
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	0	1	1	1	2	2
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	1	1
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	9	2
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	1	0	0	3

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	6	0	6	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	0	0
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology						
5.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	Yes					
5.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	Yes					
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.						

Section 6: Hydrogeology and Hydrology	0-500m					
6.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes					
6.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes					
	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	3	11	15	8
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	2
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	2	6	1	5
6.6 Source Protection Zones (within 500m of the study site)	1	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	1	0	0	1	Not searched	Not searched

Section 6: Hydrogeology and Hydrology

0-500m

	On-site	0-50m	51-250	251-500	501-1000	1000-1500
6.9 Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site?	No	No	No	No	No	Yes
6.10 Detailed River Network entries within 500m of the site	0	1	2	3	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	Yes	Yes	Not searched	Not searched	Not searched

Section 7: Flooding

7.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	Yes					
7.2 Are there any Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	Yes					
7.3 What is the Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site?	Very Low					
7.4 Are there any Flood Defences within 250m of the study site?	No					
7.5 Are there any areas benefiting from Flood Defences within 250m of the study site?	Yes					
7.6 Are there any areas used for Flood Storage within 250m of the study site?	No					
7.7 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Potential at Surface					
7.8 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	High					

Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	1	1	0	2	3
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	1
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	1	9
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	5
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	1	0	0	0	0	1
8.14 Records of Green Belt land	0	3	1	1	1	5

Section 9: Natural Hazards	
9.1 What is the maximum risk of natural ground subsidence?	Moderate
9.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Very Low
9.1.2 What is the maximum Landslides hazard rating identified on the study site?	Very Low
9.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Very Low
9.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Moderate
9.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
9.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Low
9.2 Radon	
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.
9.2.2 Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary.

Section 10: Mining	
10.1 Are there any coal mining areas within 75m of the study site?	No
10.2 Are there any Non-Coal Mining areas within 50m of the study site boundary?	Yes
10.3 Are there any brine affected areas within 75m of the study site?	No

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Historical Land Use



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Historical 1:10,000 and 1:10,560 scale mapping



Site Outline



Industrial Land Use



Potentially Infilled Land

Historical 1:2,500, 1:1,250 and 1:500 scale mapping



Search Buffers (m)



Energy Features



Petrol Stations



Tanks



Garages

1. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 45

ID	Distance [m]	Direction	Use	Date
1A	0	On Site	Unspecified Wharf	1949
2B	0	On Site	Unspecified Works	1973
3A	0	On Site	Unspecified Wharf	1934
4B	0	On Site	Unspecified Works	1987
5C	6	SE	Unspecified Wharf	1882
6A	8	SE	Wharf	1969
7C	8	SE	Unspecified Wharf	1895
8C	9	S	Wharf	1898
9C	9	SE	Unspecified Wharf	1897
10	9	NW	Unspecified Works	1973
11U	10	SE	Unspecified Wharf	1959
12C	11	SE	Unspecified Wharf	1865
13T	39	S	Unspecified Wharf	1912
14Y	39	S	Gravel Pit	1973
15AB	61	SE	Unspecified Wharf	1938
16D	78	SE	Gravel Pit	1973
17D	78	SE	Gravel Pit	1987
18E	82	W	Gravel Pit	1974
19E	82	W	Gravel Pit	1989
20M	117	NW	Unspecified Works	1974
21AC	141	E	Unspecified Pit	1865
22AD	144	SE	Gravel Pit	1912
23F	186	NW	Sand and Gravel Works	1989
24F	186	NW	Sand and Gravel Works	1974
25G	245	NW	Gravel Pit	1974
26G	245	NW	Gravel Pit	1989
27H	263	SW	Pumping Station	1974
28H	263	SW	Pumping Station	1989
29AF	330	W	Gravel Pit	1989
30AG	356	S	Gravel Pit	1973
31I	364	S	Gravel Pit	1974
32I	364	S	Gravel Pit	1989
33AH	430	SW	Gravel Pit	1974

34J	437	SE	Unspecified Ground Workings	1882
35K	438	NE	Unspecified Pit	1865
36J	441	SE	Unspecified Pit	1865
37K	460	NE	Unspecified Pit	1938
38K	462	NE	Unspecified Pit	1969
39K	465	NE	Unspecified Ground Workings	1934
40K	465	NE	Unspecified Ground Workings	1949
41K	465	NE	Unspecified Ground Workings	1912
42AI	488	E	Old Sand Pits	1969
43AJ	490	E	Old Sand Pit	1959
44L	492	N	Unspecified Pit	1865
45L	493	N	Unspecified Pit	1882

1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary:

4

ID	Distance (m)	Direction	Use	Date
46	13	NW	Unspecified Tank	1971
47	51	NW	Tanks	1971
48	70	E	Unspecified Tank	1971
49M	162	NW	Tanks	1971

1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary:

14

ID	Distance (m)	Direction	Use	Date
50N	127	NW	Electricity Substation	1982
51N	127	NW	Electricity Substation	1987
52N	127	NW	Electricity Substation	1984
53N	128	NW	Electricity Substation	1971
54O	204	E	Electricity Substation	1989
55O	205	E	Electricity Substation	1971

56O	211	E	Electricity Substation	1992
57P	370	SW	Electricity Substation	1971
58P	371	SW	Electricity Substation	1989
59P	373	SW	Electricity Substation	1992
60Q	457	N	Electricity Substation	1992
61Q	457	N	Electricity Substation	1992
62Q	459	N	Electricity Substation	1971
63Q	459	N	Electricity Substation	1987

1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary: 0

Database searched and no data found.

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 0

Database searched and no data found.

1.6 Potentially Infilled Land

Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 70

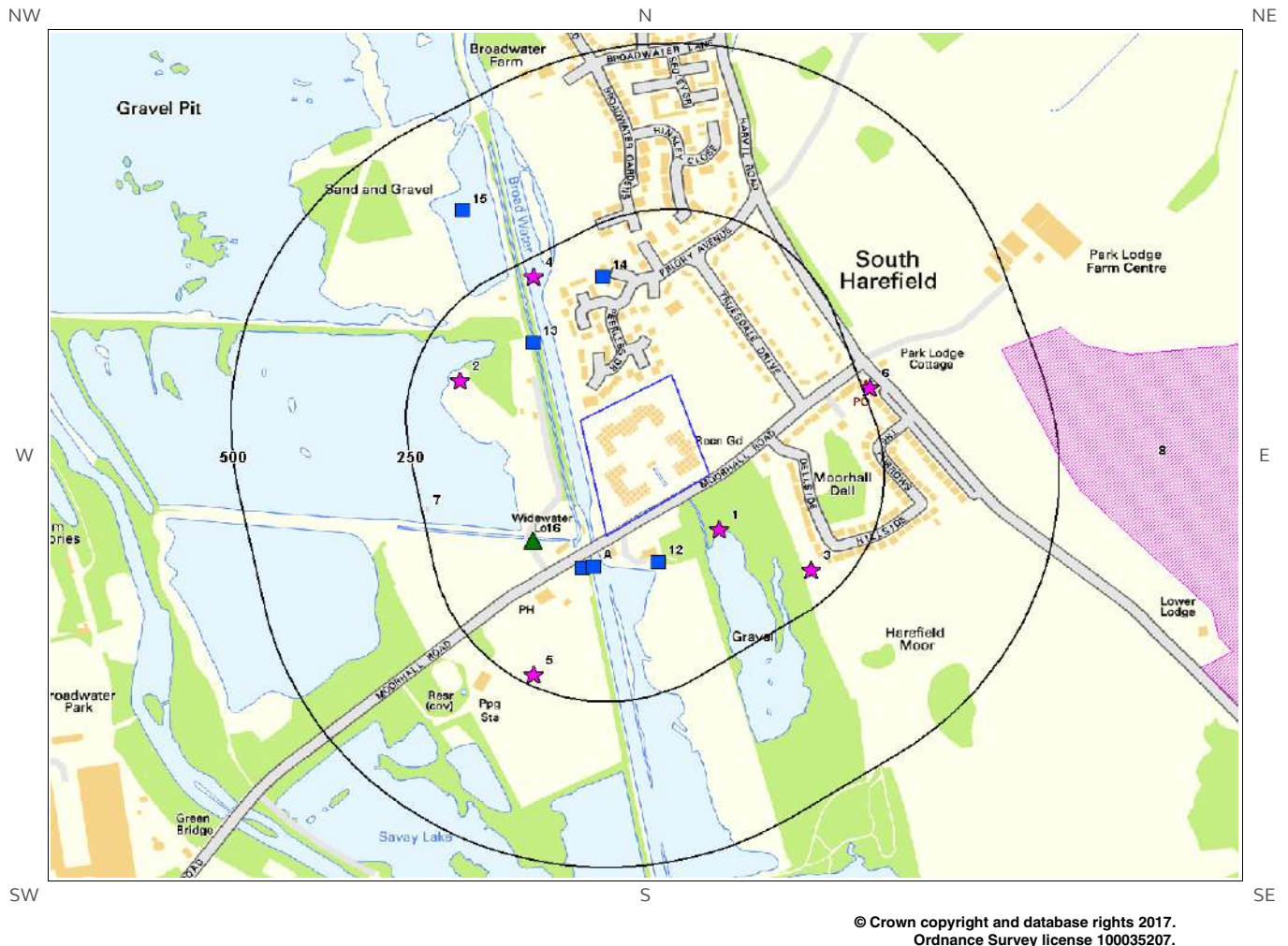
The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

ID	Distance(m)	Direction	Use	Date
64A	0	On Site	Unspecified Wharf	1949
65A	0	On Site	Unspecified Wharf	1934
66	4	W	Canal	1959
67R	6	W	Canal	1974
68R	6	W	Canal	1989
69	6	W	Canal	1882
70C	6	SE	Unspecified Wharf	1882
71S	6	W	Canal	1949
72S	6	W	Canal	1912
73S	6	W	Canal	1934
74S	6	W	Canal	1934

75	7	W	Canal	1865
76T	8	SE	Unspecified Wharf	1895
77S	9	W	Canal	1897
78T	9	SE	Unspecified Wharf	1897
79U	10	SE	Unspecified Wharf	1959
80T	11	SE	Unspecified Wharf	1865
81	12	W	Canal	1895
82S	12	W	Canal	1938
83S	15	W	Canal	1898
84V	20	E	Pond	1895
85V	25	E	Pond	1865
86W	27	SE	Pond	1949
87W	27	SE	Pond	1934
88X	32	SE	Ponds	1959
89X	33	SE	Ponds	1969
90W	34	SE	Pond	1938
91T	39	S	Unspecified Wharf	1912
92Y	39	S	Gravel Pit	1973
93Y	39	S	Pond	1987
94Z	39	S	Canal	1959
95Z	39	S	Canal	1973
96Z	39	S	Canal	1987
97AA	40	S	Water Body	1934
98AA	40	S	Water Body	1949
99AB	61	SE	Unspecified Wharf	1938
100D	78	SE	Gravel Pit	1987
101D	78	SE	Gravel Pit	1973
102E	82	W	Gravel Pit	1974
103E	82	W	Gravel Pit	1989
104	93	W	Pond	1959
105	110	S	Canal	1969
106AC	141	E	Unspecified Pit	1865
107AD	144	SE	Gravel Pit	1912
108F	186	NW	Sand and Gravel Works	1989
109F	186	NW	Sand and Gravel Works	1974
110	235	NW	Pond	1959
111G	245	NW	Gravel Pit	1974
112G	245	NW	Gravel Pit	1989
113AE	288	SW	Reservoir	1974
114AE	288	SW	Reservoir	1989
115AF	330	W	Gravel Pit	1989
116AG	356	S	Gravel Pit	1973
117AG	356	S	Pond	1987
118I	364	S	Gravel Pit	1989
119I	364	S	Gravel Pit	1974
120AH	430	SW	Gravel Pit	1974

121J	437	SE	Unspecified Ground Workings	1882
122K	438	NE	Unspecified Pit	1865
123K	440	NE	Pond	1882
124J	441	SE	Unspecified Pit	1865
125K	460	NE	Unspecified Pit	1938
126K	462	NE	Unspecified Pit	1969
127K	465	NE	Unspecified Ground Workings	1934
128K	465	NE	Unspecified Ground Workings	1912
129K	465	NE	Unspecified Ground Workings	1949
130AI	488	E	Old Sand Pits	1969
131AJ	490	E	Old Sand Pit	1959
132L	492	N	Unspecified Pit	1865
133L	493	N	Unspecified Pit	1882

2. Environmental Permits, Incidents and Registers Map



- | | | |
|-------------------------------|---|--|
| Site Outline | Recorded Pollution Incident | RAS 3 & 4 Authorisations |
| Dangerous Substances (List 1) | Dangerous Substances (List 2) | Part A(1) Authorised Processes and Historic IPC Authorisations |
| Water Industry Referrals | Licenced Discharge Consents | Part A(2) and Part B Authorised Processes |
| Red List Discharge Consents | Sites Determined as Contaminated Land | COMAH / NIHHS Sites |
| | Hazardous Substance Consents and Enforcements | |

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency/Natural Resources Wales and Local Authorities reveal the following information:

2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

1

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
16	105	W	504900 188700	Address: Rmc Process: cement/lime/mortar process Status: Historical Permit Permit Type: Part B Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

7

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
9A	50	SW	504986 188663	Address: THE HORSE AND BARGE PUBLIC HOUSE, MOORHALL ROAD, UXBRIDGE, MIDDLESEX, UB9 6PE, UB9 6PE Effluent Type: SEWAGE & TRADE COMBINED - UNSPECIFIED Permit Number: CANM.1095 Permit Version: 1 Receiving Water: TO THE GRAND UNION CANAL Status: REVOKED - UNSPECIFIED Issue date: 21/04/2006 Effective Date: 18-Apr-2006 Revocation Date: 14/04/2013
10A	61	SW	504970 188660	Address: THE HORSE & BARGE P.H., MOORHALL RO, THE HORSE & BARGE P.H., MOORHALL, ROAD, HAREFIELD, UXBRIDGE, - , - Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CTWC.0323 Permit Version: 1 Receiving Water: GRAND UNIONCANAL Status: TRANSFERRED FROM COPA 1974 Issue date: 28/08/1985 Effective Date: 28-Aug-1985 Revocation Date: 05/05/1986
11A	61	SW	504970 188660	Address: THE HORSE & BARGE P.H., MOORHALL RO, THE HORSE & BARGE P.H., MOORHALL, ROAD, HAREFIELD, UXBRIDGE, - , - Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: CTWC.0323 Permit Version: 2 Receiving Water: GRAND UNIONCANAL Status: REVOKED - UNSPECIFIED Issue date: 28/08/1985 Effective Date: 06-May-1986 Revocation Date: 12/01/1996

ID	Distance (m)	Direction	NGR	Details
12	73	SE	505080 188670	<p>Address: HAREFIELD MARINA, MOORHALL ROAD, HA, HAREFIELD MARINA, MOORHALL ROAD,, HAREFIELD, MIDDLESEX, -, -</p> <p>Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY</p> <p>Permit Number: CTWC.3058</p> <p>Permit Version: 1</p> <p>Receiving Water: ALLUVIUM ANDMADE GROUND</p> <p>Status: TRANSFERRED FROM COPA 1974</p> <p>Issue date: 26/01/1989</p> <p>Effective Date: 26-Jan-1989</p> <p>Revocation Date: -</p>
13	136	NW	504900 189000	<p>Address: CLAY MIX VAC OVEN, CERAMICSLIP HSE,, CLAY MIX VAC OVEN, CERAMICSLIP H, SE, FACTORY, HAREFIELD, MIDDX, -, -</p> <p>Effluent Type: TRADE DISCHARGES - COOLING WATER</p> <p>Permit Number: CTRC.1141</p> <p>Permit Version: 1</p> <p>Receiving Water: TRIB OF NEWYEARS GREENBOURNE</p> <p>Status: REVOKED - UNSPECIFIED</p> <p>Issue date: 08/12/1969</p> <p>Effective Date: 08-Dec-1969</p> <p>Revocation Date: 06/03/1991</p>
14	177	NW	505000 189100	<p>Address: DRY PRESS VACUUM OVEN, CERAMIC SLIP, DRY PRESS VACUUM OVEN, CERAMIC S, LIP HSE, FACTORY, HAREFIELD, MID, DX, -</p> <p>Effluent Type: TRADE DISCHARGES - COOLING WATER</p> <p>Permit Number: CTRC.1140</p> <p>Permit Version: 1</p> <p>Receiving Water: TRIB OF NEWYEARS GREENBOURNE</p> <p>Status: REVOKED - UNSPECIFIED</p> <p>Issue date: 08/12/1969</p> <p>Effective Date: 08-Dec-1969</p> <p>Revocation Date: 06/03/1991</p>
15	359	NW	504800 189200	<p>Address: MOORHALL ROAD, HAREFIELD, MIDDLESEX, MOORHALL ROAD, HAREFIELD, MIDDLE, SEX, -, -</p> <p>Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY</p> <p>Permit Number: CTWC.0180</p> <p>Permit Version: 1</p> <p>Receiving Water: HAREFIELD LAKE</p> <p>Status: TRANSFERRED FROM COPA 1974</p> <p>Issue date: 18/07/1985</p> <p>Effective Date: 18-Jul-1985</p> <p>Revocation Date: -</p>

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site:

0

Database searched and no data found.

2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

6

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
1	77	SE	505166 188719	Incident Date: 03-Nov-2001 Incident Identification: 40928 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Other General Biodegradable Material or Waste Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
2	183	W	504796 188943	Incident Date: 19-Nov-2010 Incident Identification: 839529 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes Water Impact: Category 2 (Significant) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
3	203	SE	505297 188658	Incident Date: 04-Aug-2003 Incident Identification: 179000 Pollutant: Specific Waste Materials Pollutant Description: Other Non-Metal Wastes Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
4	224	NW	504900 189100	Incident Date: 08-Jul-2003 Incident Identification: 171985 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
5	234	SW	504900 188500	Incident Date: 18-Mar-2003 Incident Identification: 143862 Pollutant: Oils and Fuel Pollutant Description: Unidentified Oil Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
6	259	E	505381 188933	Incident Date: 21-Jul-2003 Incident Identification: 175637 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Dust Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

1

The following NIRS List 1 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details
7	242	W		Incident Date: 02-Jan-2001 Incident Identification: 12702.0 Catchments Name: COLNE Water Description: RESERVOIR/LAKE/POND Water Course: LAKES AND STILLWATERS Incident Substantiated: N/A Priority Description: Immediate (2 Hours) Waste Description: Not Available Water Impact: Major (Persistent, Extensive) Impact Land Impact: No Impact Air Impact: No Impact Action Taken: Not Available

2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

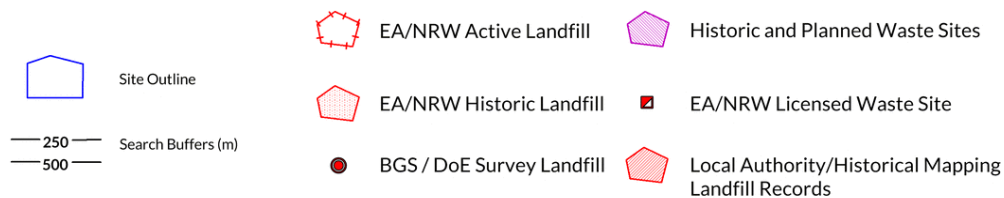
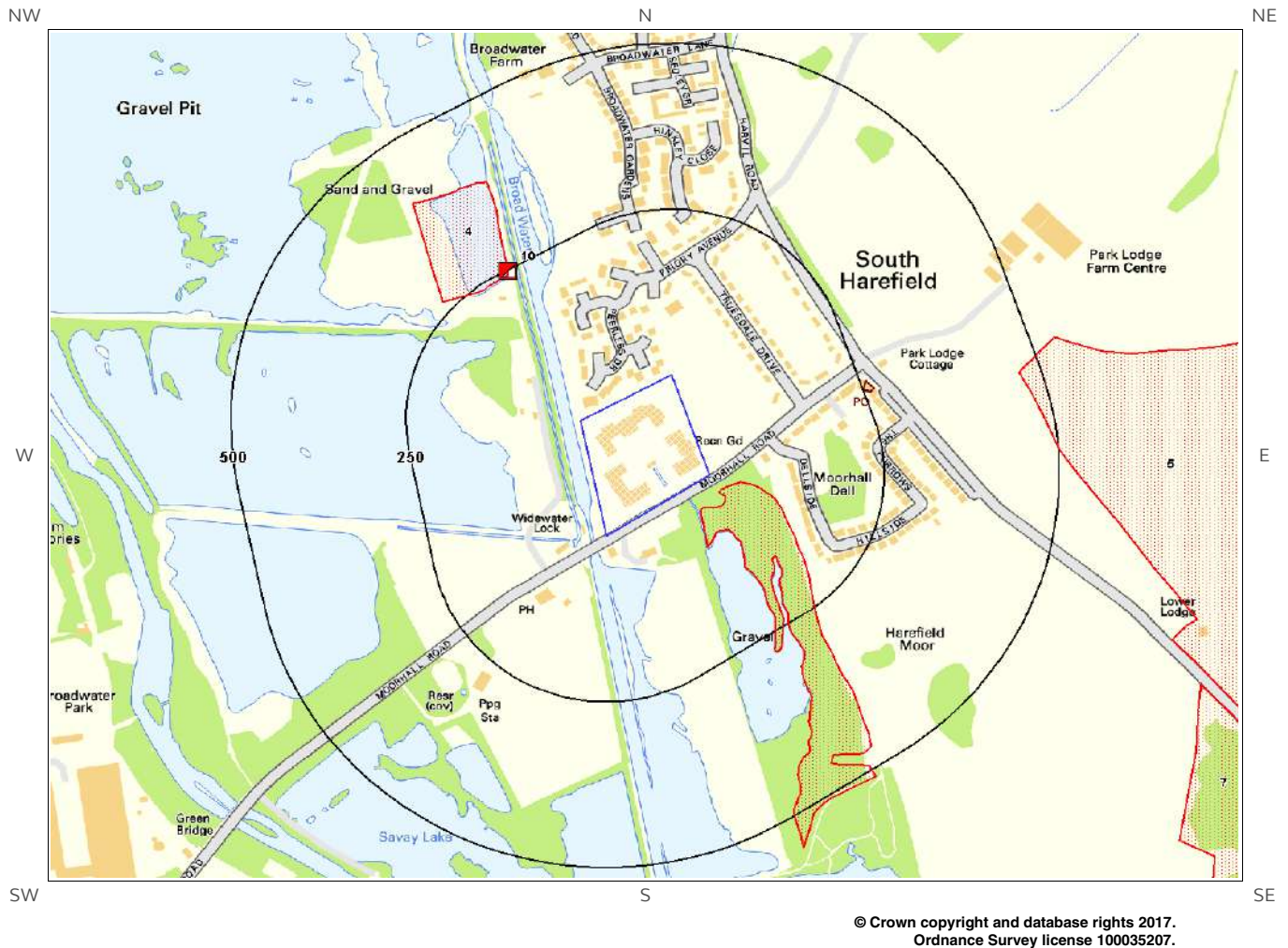
How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site?

1

The following records are represented as polygons on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Description	Location	Category	Year Identified
8	457	E	506041 188356	Pollution of controlled waters, landfill gas. 21 significant pollutant linkages identified.	New Years Green Lane Landfill Site, Harefield, Middlesex.	Contaminated Land/Special Site	2011

3. Landfill and Other Waste Sites Map



3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site:

0

Database searched and no data found.

3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site:

7

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
3	28	SE	505200 188500	<p>Site Address: Harefield Marina, South Harefield, Hillingdon, London</p> <p>Waste Licence: -</p> <p>Site Reference: 8HI033, HIL039</p> <p>Waste Type: Inert, Industrial, Commercial, Household</p> <p>Environmental Permitting Regulations (Waste) Reference: -</p> <p>Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: Hoveringham Limited and S W Boyer First Recorded: 31-Dec-1947 Last Recorded: -</p>
4	241	NW	504800 189100	<p>Site Address: Broadwater Plant Site, Broadwater Plant Site, Near Denham, Hillingdon, Middlesex</p> <p>Waste Licence: Yes</p> <p>Site Reference: DL464, 8HI067, HIL076</p> <p>Waste Type: Inert</p> <p>Environmental Permitting Regulations (Waste) Reference: TE1/L/LAF001</p> <p>Licence Issue: 09-Jun-1993 Licence Surrendered: 29-Jun-2004 Licence Holder Address: Po Box 7388, Syston, Leicester, Leicestershire Operator: Lafarge Aggregates Limited Licence Holder: Lafarge Aggregates Limited First Recorded: - Last Recorded: -</p>
5	469	E	506200 188600	<p>Site Address: Park Lodge Farm, Pinewood Road, Iver Heath</p> <p>Waste Licence: -</p> <p>Site Reference: 8HI038, HIL045</p> <p>Waste Type: Commercial, Household</p> <p>Environmental Permitting Regulations (Waste) Reference: -</p> <p>Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: Gretaer London Council First Recorded: 31-Dec-1944 Last Recorded: 31-Dec-1974</p>
Not shown	736	N	504800 189800	<p>Site Address: Church Hill, Harefield, Hillingdon, London</p> <p>Waste Licence: -</p> <p>Site Reference: 8HI010, HIL010</p> <p>Waste Type: Commercial, Household</p> <p>Environmental Permitting Regulations (Waste) Reference: -</p> <p>Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: W W Drinkwater First Recorded: 31-Dec-1954 Last Recorded: 31-Dec-1974</p>

ID	Distance (m)	Direction	NGR	Details	
7	771	SE	505900 188100	Site Address: Dews Farm, South Harefield, Hillingdon, London Waste Licence: - Site Reference: 8HI025 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: - Last Recorded: -
Not shown	1211	S	505500 187300	Site Address: Land off Harvil Road, Harvil Road Waste Licence: - Site Reference: 8HI022 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: Pioneer Willment Limited First Recorded: 31-Dec-1967 Last Recorded: 31-Dec-1973
Not shown	1384	N	505000 190300	Site Address: South of Merle Avenue, Merle Avenue Waste Licence: - Site Reference: 8HI058 Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: - Operator: - Licence Holder: - First Recorded: 31-Dec-1969 Last Recorded: 31-Dec-1972

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

2

The following landfill records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
Not shown	871	N	504900.0 189800.0	Address: Church Hill Tip, London SE1 BGS Number: 2338.0	Risk: Risk to major and minor aquifer Waste Type: N/A
Not shown	1186	E	506300.0 188500.0	Address: New Years Green, Landfill Site, Harefield Middx BGS Number: 1108.0	Risk: Risk to major aquifer Waste Type: 153000 tons Domestic refuse & Sewage sludge (dry)

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

11

The following landfill records are represented as points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Site Address	Source	Data Type
Not shown	748	N	504925 189828	Refuse Tip	1971 mapping	Polygon
Not shown	762	N	504836 189827	Refuse Tip	1987 mapping	Polygon
Not shown	792	E	505971 188831	Refuse Tip	1971 mapping	Polygon
Not shown	847	E	506061 188861	Refuse Tip	1971 mapping	Polygon

ID	Distance (m)	Direction	NGR	Site Address	Source	Data Type
Not shown	852	E	506220 188469	Refuse Tip	1971 mapping	Polygon
Not shown	866	E	505982 189110	Refuse Tip	1971 mapping	Polygon
Not shown	866	E	505983 189111	Refuse Tip	1987 mapping	Polygon
Not shown	866	E	505983 189111	Refuse Tip	1982 mapping	Polygon
Not shown	889	E	506179 189173	Refuse Tip	1971 mapping	Polygon
Not shown	1079	N	504702 190107	Refuse Tip	1967 mapping	Polygon
Not shown	1408	S	505567 187277	Refuse Tip	1969 mapping	Polygon

3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

0

Database searched and no data found.

3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site:

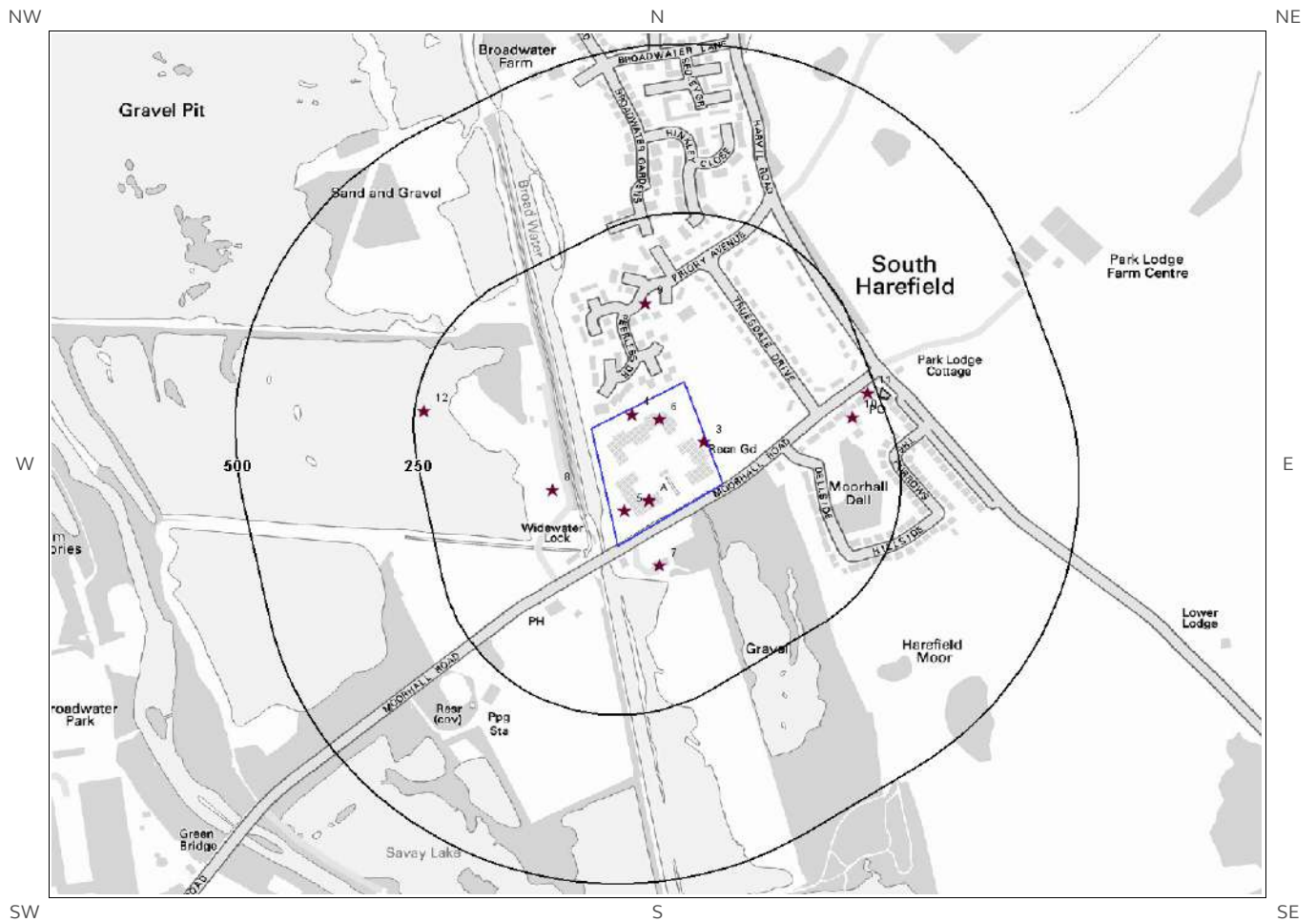
4

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
10	249	NW	504865 189110	<p>Site Address: Lafarge Redland Aggregates Ltd, Broadwater Plant Site, nr Denham, Hillingdon, Middlesex</p> <p>Type: Landfill taking Non-Biodegradable Wastes</p> <p>Size: >= 75000 tonnes</p> <p>Environmental Permitting Regulations (Waste) Licence Number: LAF001</p> <p>EPR reference: EA/EPR/WP3496NY/S002</p> <p>Operator: Lafarge Aggregates Ltd</p> <p>Waste Management licence No: 80056</p> <p>Annual Tonnage: 150000.0</p> <p>Issue Date: 09/06/1993</p> <p>Effective Date: -</p> <p>Modified: -</p> <p>Surrendered Date: 29/06/2004</p> <p>Expiry Date: -</p> <p>Cancelled Date: -</p> <p>Status: Surrendered</p> <p>Site Name: Broadwater Plant Site, Hillingdon</p> <p>Correspondence Address: -</p>

ID	Distance (m)	Direction	NGR	Details	
Not shown	1107	SE	506130 188282	Site Address: Hillingdon LB Council, New Years Green Lane C A Site, New Years Green Lane, Harefield, Uxbridge, Middlesex, UB9 6LX Type: 75kte HCI Waste Transfer Station Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: HIL001 EPR reference: EA/EPR/VP3996NX/V003 Operator: London Borough of Hillingdon Waste Management licence No: 80043 Annual Tonnage: 74999.0	Issue Date: 08/11/1989 Effective Date: - Modified: 10/12/2012 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: New Years Green Lane Civic Amenity Site Correspondence Address: -
Not shown	1127	SE	506117 188219	Site Address: Hillingdon LB Council, New Years Green Lane C A Site, New Years Green Lane, Harefield, Uxbridge, Middlesex, UB9 6LX Type: Household Waste Amenity Site Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: HIL001 EPR reference: EA/EPR/VP3996NX/V002 Operator: Hillingdon London Borough Council Waste Management licence No: 80043 Annual Tonnage: 72762.0	Issue Date: 08/11/1989 Effective Date: - Modified: 02/02/1999 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: New Years Green Lane C A Site Correspondence Address: -
Not shown	1427	SE	505571 187399	Site Address: Skip Lane, Harvil Road, Harefield, Uxbridge, UB9 6RP Type: Physical Treatment Facility Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: TML142 EPR reference: EA/EPR/BB3709TU/A001 Operator: Thames Materials Limited Waste Management licence No: 401566 Annual Tonnage: 449.0	Issue Date: 29/01/2015 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Thames Materials Correspondence Address: -

4. Current Land Use Map



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4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site:

12

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1A	0	On Site	Matrox Vite Ltd	505049 188777	Matrox Vite Ltd, Chaplin House Widewater Place, Moorhall Road, Harefield, Uxbridge, UB9 6NS	Electrical Components	Industrial Products
2A	0	On Site	Bic	505049 188778	Bic, Widewater Place Moorhall Road, Harefield, Uxbridge, UB9 6NS	Stationery, Stamps, Tags and Labels	Industrial Products
3	0	On Site	Electricity Sub Station	505126 188864	Electricity Sub Station, UB9	Electrical Features	Infrastructure and Facilities
4	0	On Site	Electricity Sub Station	505025 188905	Electricity Sub Station, UB9	Electrical Features	Infrastructure and Facilities
5	0	On Site	Electricity Sub Station	505014 188762	Electricity Sub Station, UB9	Electrical Features	Infrastructure and Facilities
6	0	On Site	Norgine	505063 188897	Norgine, Norgine House Widewater Place, Moorhall Road, Harefield, Uxbridge, UB9 6NS	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products
7	55	SE	Musk Marine Sales	505063 188681	Musk Marine Sales, Harefield Marina, Moorhall Road, Harefield, Uxbridge, UB9 6PD	Moorings and Unloading Facilities	Water
8	73	W	Harleyford Aggregates Ltd	504913 188793	Harleyford Aggregates Ltd, Harefield Quarry, Moorhall Road, Harefield, Uxbridge, UB9 6PD	Unspecified Quarries Or Mines	Extractive Industries
9	129	NW	Electricity Sub Station	505043 189069	Electricity Sub Station, UB9	Electrical Features	Infrastructure and Facilities
10	204	E	Electricity Sub Station	505334 188901	Electricity Sub Station, UB9	Electrical Features	Infrastructure and Facilities
11	237	E	I Go Tours Ltd	505355 188936	I Go Tours Ltd, 3, Moorhall Road, Harefield, Uxbridge, UB9 6PE	Vehicle Hire and Rental	Hire Services
12	238	W	Gravel Pit (Water)	504733 188910	Gravel Pit (Water), UB9	Sand, Gravel and Clay Extraction and Merchants	Extractive Industries

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site:

0

Database searched and no data found.

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site:

0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site:

0

Database searched and no data found.

5. Geology

5.1 Artificial Ground and Made Ground

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID

5.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
SHGR-XSV	SHEPPERTON GRAVEL MEMBER	SAND AND GRAVEL
SHGR-XSV	SHEPPERTON GRAVEL MEMBER	SAND AND GRAVEL

5.3 Bedrock and Solid Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
SNCK-CHLK	SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION (UNDIFFERENTIATED)	CHALK

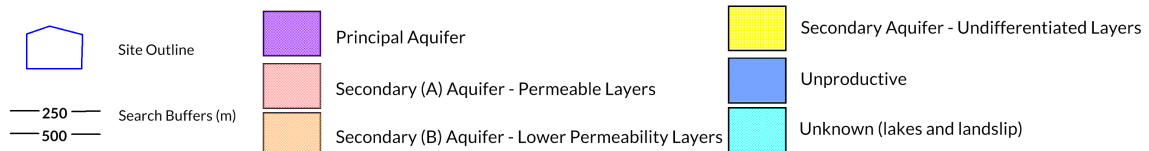
(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

6 Hydrogeology and Hydrology

6a. Aquifer Within Superficial Geology



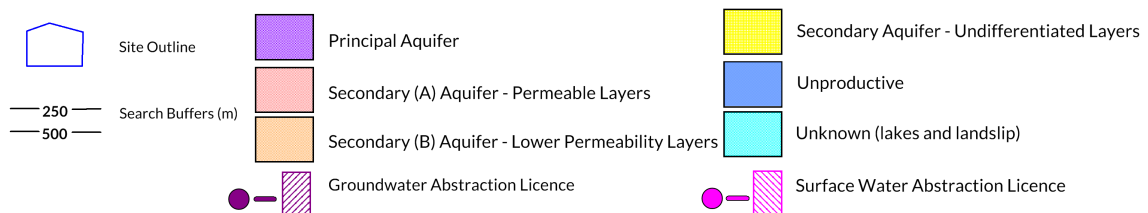
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6b. Aquifer Within Bedrock Geology and Abstraction Licenses



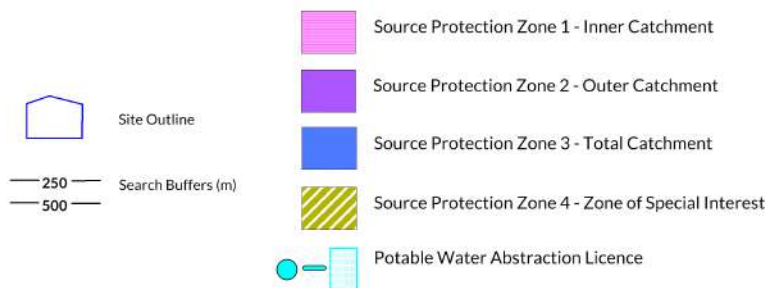
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6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



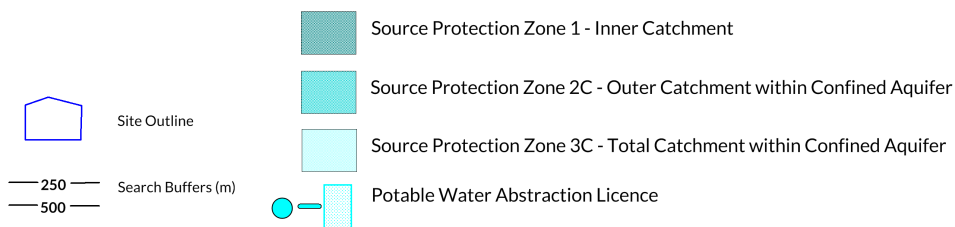
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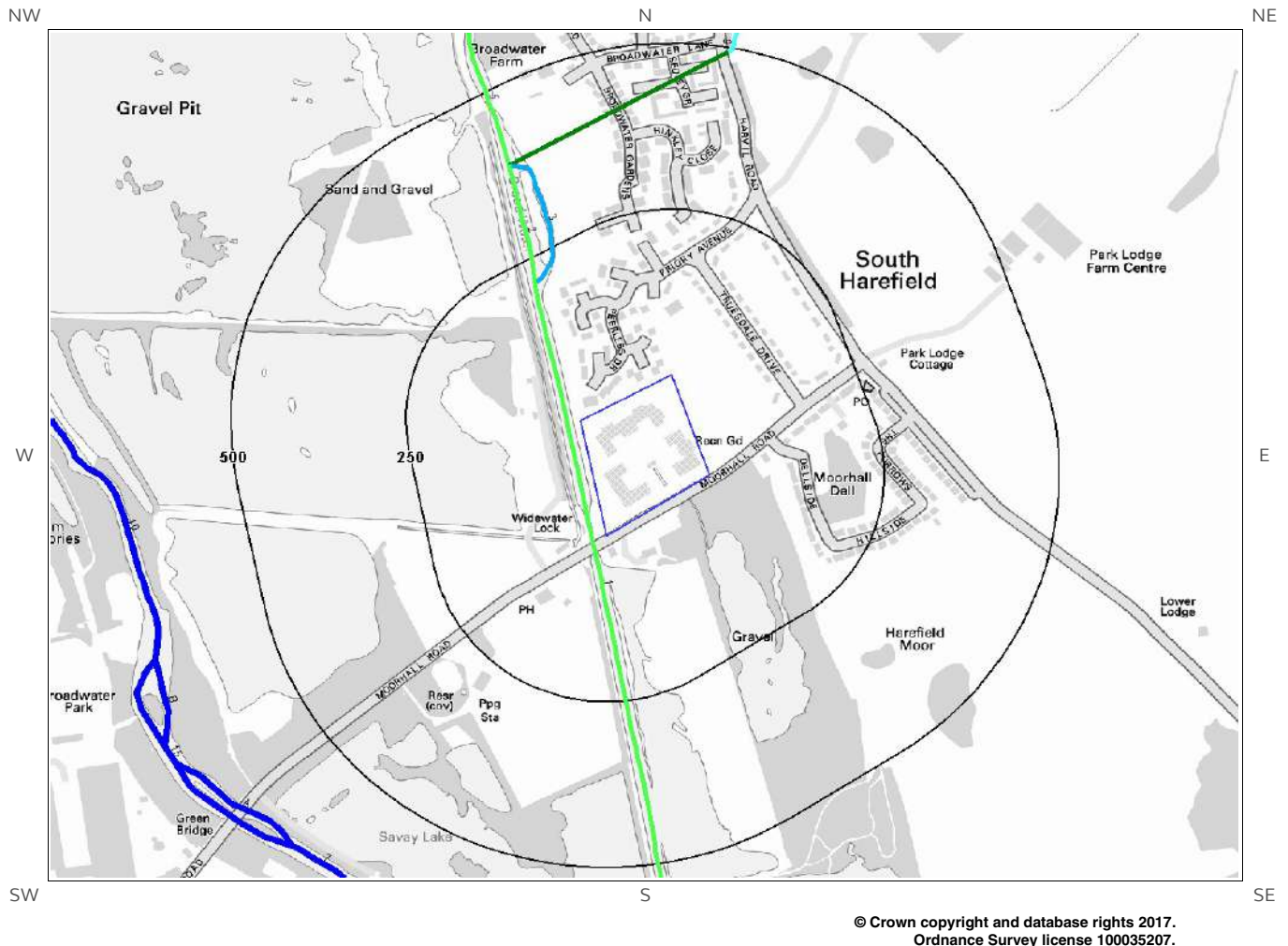
6d. Hydrogeology – Source Protection Zones within confined aquifer



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6e. Hydrology – Detailed River Network and River Quality



Site Outline

— 250 — Search Buffers (m)
— 500 —

- | | | | |
|--|---------------------------------------|--|-------------------------------------|
| | Primary River | | Canal |
| | Secondary River | | Canal Tunnel |
| | Tertiary River | | Culvert |
| | Lake/Reservoir | | Multiple Channel Culvert |
| | Underground River (inferred) | | Underground River (Potential Sewer) |
| | General Quality Assessment: Biology | | Underground River (local knowledge) |
| | General Quality Assessment: Chemistry | | |

6. Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (6a):

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

6.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	0	On Site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
3	274	E	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

6.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site?

Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details
8	116	W	504860 188840	<p>Status: Active Licence No: 28/39/28/0037 Details: Mineral Washing Direct Source: Thames Groundwater Point: Wet Gravel Pit At Harefield Moor Data Type: Point Name: HARLEYFORD AGGREGATES LIMITED</p> <p>Annual Volume (m³): 166420 Max Daily Volume (m³): 582 Original Application No: - Original Start Date: 10/1/1966 Expiry Date: - Issue No: 101 Version Start Date: 1/10/1999 Version End Date:</p>
9A	228	SW	504830 188563	<p>Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Blackford Pumping Station 'i3' Data Type: Point Name: Affinity Water Limited</p> <p>Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/012714 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 104 Version Start Date: 28/3/2014 Version End Date:</p>
10A	228	SW	504830 188563	<p>Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Blackmoor Pumping Station 'i3' Data Type: Point Name: Affinity Water Limited</p> <p>Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/012714 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 104 Version Start Date: 28/3/2014 Version End Date:</p>
11B	288	SW	504881 188450	<p>Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Blackmoor Pumping Station 'I1' Data Type: Point Name: Affinity Water Limited</p> <p>Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/012714 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 104 Version Start Date: 28/3/2014 Version End Date:</p>
12B	288	SW	504881 188450	<p>Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Blackford Pumping Station 'I1' Data Type: Point Name: Affinity Water Limited</p> <p>Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/012714 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 104 Version Start Date: 28/3/2014 Version End Date:</p>
13	293	SW	504800 188500	<p>Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Blackford Pumping Station 'I' Data Type: Point Name: Affinity Water Limited</p> <p>Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/011805 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 103 Version Start Date: 14/11/2012 Version End Date:</p>

ID	Distance (m)	Direction	NGR	Details	
14C	325	SW	504839 188430	Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Blackmoor Pumping Station 'i2' Data Type: Point Name: Affinity Water Limited	Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/012714 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 104 Version Start Date: 28/3/2014 Version End Date:
15C	325	SW	504839 188430	Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Blackford Pumping Station 'i2' Data Type: Point Name: Affinity Water Limited	Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/012714 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 104 Version Start Date: 28/3/2014 Version End Date:
16D	346	NW	504700 189100	Status: Active Licence No: 28/39/28/0052 Details: Mineral Washing Direct Source: Thames Groundwater Point: Broadwater, Harefield Moor-wet Gravel Pit 'a' Data Type: Point Name: Tarmac Aggregates Limited	Annual Volume (m³): 462328 Max Daily Volume (m³): 1541.1 Original Application No: NPS/WR/020814 Original Start Date: 14/3/1966 Expiry Date: - Issue No: 104 Version Start Date: 26/10/2015 Version End Date:
17D	346	NW	504700 189100	Status: Historical Licence No: 28/39/28/0052 Details: Mineral Washing Direct Source: Thames Groundwater Point: Wet Gravel Pit 'a' At Broadwater, Harefield Moor Data Type: Point Name: LAFARGE AGGREGATES LIMITED	Annual Volume (m³): 462328 Max Daily Volume (m³): 1541.1 Original Application No: - Original Start Date: 14/3/1966 Expiry Date: - Issue No: 101 Version Start Date: 2/1/2001 Version End Date:
18	371	SW	504800 188400	Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Blackford Pumping Station 'i' Data Type: Point Name: Affinity Water Limited	Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/011805 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 103 Version Start Date: 14/11/2012 Version End Date:
19E	416	NW	504700 189200	Status: Active Licence No: 28/39/28/0052 Details: Process Water Direct Source: Thames Groundwater Point: Broadwater, Harefield Moor-wet Gravel Pit 'b' Data Type: Point Name: Tarmac Aggregates Limited	Annual Volume (m³): 462328 Max Daily Volume (m³): 1541.1 Original Application No: NPS/WR/020814 Original Start Date: 14/3/1966 Expiry Date: - Issue No: 104 Version Start Date: 26/10/2015 Version End Date:
20E	416	NW	504700 189200	Status: Historical Licence No: 28/39/28/0052 Details: Process water Direct Source: Thames Groundwater Point: Wet Gravel Pit 'b' At Broadwater, Harefield Moor Data Type: Point Name: LAFARGE AGGREGATES LIMITED	Annual Volume (m³): 462328 Max Daily Volume (m³): 1541.1 Original Application No: - Original Start Date: 14/3/1966 Expiry Date: - Issue No: 101 Version Start Date: 2/1/2001 Version End Date:
21E	416	NW	504700 189200	Status: Historical Licence No: 28/39/28/0052 Details: Mineral Washing Direct Source: Thames Groundwater Point: Wet Gravel Pit 'b' At Broadwater, Harefield Moor Data Type: Point Name: LAFARGE REDLAND AGGREGATES LIMITED	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 14/3/1966 Expiry Date: - Issue No: 100 Version Start Date: 1/6/1998 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
22F	693	W	504300 188700	Status: Historical Licence No: 28/39/28/0468 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Borehole At North Orbital Road, Denham Data Type: Point Name: ROUSSEL LABORATORIES LTD	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 11/6/1985 Expiry Date: - Issue No: 100 Version Start Date: 10/5/1988 Version End Date:
23F	693	W	504300 188700	Status: Historical Licence No: 28/39/28/0468 Details: Spray Irrigation - Direct Direct Source: Thames Groundwater Point: Borehole At North Orbital Road, Denham Data Type: Point Name: ROUSSEL LABORATORIES LTD	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 11/6/1985 Expiry Date: - Issue No: 100 Version Start Date: 10/5/1988 Version End Date:
24	755	W	504010 188787	Status: Active Licence No: 28/39/28/0101 Details: Pollution Remediation Direct Source: Thames Groundwater Point: Denham Media Park Data Type: Region Name: Weston Homes PLC	Annual Volume (m³): 580763 Max Daily Volume (m³): 1591 Original Application No: NPS/WR/022379 Original Start Date: 13/6/1966 Expiry Date: 31/3/2026 Issue No: 103 Version Start Date: 10/5/2016 Version End Date:
Not shown	812	W	504170 188740	Status: Historical Licence No: 28/39/28/0448 Details: Pollution Remediation Direct Source: Thames Groundwater Point: North Orbital Road, Denham - Borehole 'd' Data Type: Point Name: DELUXE LABORATORIES LIMITED	Annual Volume (m³): 580763 Max Daily Volume (m³): 1591 Original Application No: - Original Start Date: 13/6/1980 Expiry Date: - Issue No: 101 Version Start Date: 20/1/2009 Version End Date:
Not shown	812	W	504170 188740	Status: Historical Licence No: 28/39/28/0448 Details: Pollution Remediation Direct Source: Thames Groundwater Point: Borehole D At North Orbital Road, Denham Data Type: Point Name: DELUXE LABORATORIES LIMITED	Annual Volume (m³): 580763 Max Daily Volume (m³): 1591 Original Application No: - Original Start Date: 13/6/1980 Expiry Date: - Issue No: 100 Version Start Date: 2/5/2000 Version End Date:
Not shown	875	W	504110 188720	Status: Historical Licence No: 28/39/28/0448 Details: Process Water Direct Source: Thames Groundwater Point: North Orbital Road, Denham At Borehole 'c' Data Type: Point Name: DELUXE LABORATORIES LIMITED	Annual Volume (m³): 580763 Max Daily Volume (m³): 1591 Original Application No: - Original Start Date: 13/6/1980 Expiry Date: - Issue No: 101 Version Start Date: 20/1/2009 Version End Date:
Not shown	875	W	504110 188720	Status: Historical Licence No: 28/39/28/0448 Details: Process Water Direct Source: Thames Groundwater Point: Borehole C At North Orbital Road, Denham Data Type: Point Name: DELUXE LABORATORIES LIMITED	Annual Volume (m³): 580763 Max Daily Volume (m³): 1591 Original Application No: - Original Start Date: 13/6/1980 Expiry Date: - Issue No: 100 Version Start Date: 2/5/2000 Version End Date:
Not shown	876	W	504103 188753	Status: Active Licence No: 28/39/28/0101 Details: Process Water Direct Source: Thames Groundwater Point: Denham Media Park 'c' Data Type: Point Name: Weston Homes PLC	Annual Volume (m³): 580763 Max Daily Volume (m³): 1591 Original Application No: NPS/WR/022379 Original Start Date: 13/6/1966 Expiry Date: 31/3/2026 Issue No: 103 Version Start Date: 10/5/2016 Version End Date:

ID	Distance (m)	Direction	NGR	Details		
Not shown	888	W	504100 188700	Status: Historical Licence No: 28/39/28/0101 Details: Process Water Direct Source: Thames Groundwater Point: Borehole 'a' At North Orbital Road, Denham Data Type: Point Name: DELUXE LABORATORIES LIMITED	Annual Volume (m³): 580752 Max Daily Volume (m³): 1591 Original Application No: - Original Start Date: 13/6/1966 Expiry Date: - Issue No: 100 Version Start Date: 2/5/2000 Version End Date:	
Not shown	888	W	504100 188700	Status: Historical Licence No: 28/39/28/0101 Details: Process Water Direct Source: Thames Groundwater Point: Borehole 'b' At North Orbital Road, Denham Data Type: Point Name: DELUXE LABORATORIES LIMITED	Annual Volume (m³): 580752 Max Daily Volume (m³): 1591 Original Application No: - Original Start Date: 13/6/1966 Expiry Date: - Issue No: 100 Version Start Date: 2/5/2000 Version End Date:	
Not shown	912	W	504073 188714	Status: Active Licence No: 28/39/28/0101 Details: Process Water Direct Source: Thames Groundwater Point: Denham Media Park 'b' Data Type: Point Name: Weston Homes PLC	Annual Volume (m³): 580763 Max Daily Volume (m³): 1591 Original Application No: NPS/WR/022379 Original Start Date: 13/6/1966 Expiry Date: 31/3/2026 Issue No: 103 Version Start Date: 10/5/2016 Version End Date:	
Not shown	916	W	504080 188660	Status: Historical Licence No: 28/39/28/0101 Details: Process Water Direct Source: Thames Groundwater Point: North Orbital Road, Denham At Borehole 'a' Data Type: Point Name: DELUXE LABORATORIES LIMITED	Annual Volume (m³): 580752 Max Daily Volume (m³): 1591 Original Application No: - Original Start Date: 13/6/1966 Expiry Date: - Issue No: 101 Version Start Date: 20/1/2009 Version End Date:	
Not shown	920	W	504060 188740	Status: Historical Licence No: 28/39/28/0101 Details: Process Water Direct Source: Thames Groundwater Point: North Orbital Road, Denham At Borehole 'b' Data Type: Point Name: DELUXE LABORATORIES LIMITED	Annual Volume (m³): 580752 Max Daily Volume (m³): 1591 Original Application No: - Original Start Date: 13/6/1966 Expiry Date: - Issue No: 101 Version Start Date: 20/1/2009 Version End Date:	
Not shown	927	W	504068 188665	Status: Active Licence No: 28/39/28/0101 Details: Process Water Direct Source: Thames Groundwater Point: Denham Media Park 'a' Data Type: Point Name: Weston Homes PLC	Annual Volume (m³): 580763 Max Daily Volume (m³): 1591 Original Application No: NPS/WR/022379 Original Start Date: 13/6/1966 Expiry Date: 31/3/2026 Issue No: 103 Version Start Date: 10/5/2016 Version End Date:	
Not shown	927	W	504068 188665	Status: Historical Licence No: 28/39/28/0101 Details: Process Water Direct Source: Thames Groundwater Point: Denham Media Park Data Type: Point Name: DELUXE LABORATORIES LIMITED	Annual Volume (m³): 580752 Max Daily Volume (m³): 1591 Original Application No: NPS/WR/011686 Original Start Date: 13/6/1966 Expiry Date: 31/3/2026 Issue No: 102 Version Start Date: 31/1/2013 Version End Date:	
Not shown	1398	NW	503930 189819	Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Northmoor Pumping Station 'h2' Data Type: Point Name: Affinity Water Limited	Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/012714 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 104 Version Start Date: 28/3/2014 Version End Date:	

ID	Distance (m)	Direction	NGR	Details	
Not shown	1400	NW	503930 189822	Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Northmoor Pumping Station 'h1' Data Type: Point Name: Affinity Water Limited	Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/012714 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 104 Version Start Date: 28/3/2014 Version End Date:
Not shown	1408	NW	503900 189800	Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Northmoor Pumping Station Data Type: Point Name: Affinity Water Limited	Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/011805 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 103 Version Start Date: 14/11/2012 Version End Date:
Not shown	1411	NW	503861 189756	Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Northmoor Pumping Station 'h3' Data Type: Point Name: Affinity Water Limited	Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/012714 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 104 Version Start Date: 28/3/2014 Version End Date:
Not shown	1588	S	505500 187200	Status: Active Licence No: 28/39/28/0509 Details: Mineral Washing Direct Source: Thames Groundwater Point: Wet Pit At Harvil Road, South Harefield Data Type: Point Name: HANSON QUARRY PRODUCTS EUROPE LTD	Annual Volume (m³): 272760 Max Daily Volume (m³): 1092 Original Application No: NPS/WR/011609 Original Start Date: 9/3/1992 Expiry Date: - Issue No: 101 Version Start Date: 13/8/2012 Version End Date:
Not shown	1812	S	504900 186900	Status: Historical Licence No: 28/39/28/0275 Details: Spray Irrigation - Direct Direct Source: Thames Groundwater Point: Well At Denham Court Nursery, Denham, Middlesex Data Type: Point Name: PALMER	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 13/2/1967 Expiry Date: - Issue No: 100 Version Start Date: 13/2/1967 Version End Date:
Not shown	1812	S	504900 186900	Status: Historical Licence No: 28/39/28/0275 Details: Spray Irrigation - Spray Irrigation Definition Order Direct Source: Thames Groundwater Point: Well At Denham Court Nursery, Denham, Middlesex Data Type: Point Name: PALMER	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 13/2/1967 Expiry Date: - Issue No: 100 Version Start Date: 13/2/1967 Version End Date:
Not shown	1971	NW	504000 190600	Status: Historical Licence No: 28/39/28/0432 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Borehole At Troy Lake, West Hyde, Rickmansworth Data Type: Point Name: RICKMANSWORTH SAILING CLUB	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 30/3/1977 Expiry Date: - Issue No: 100 Version Start Date: 30/3/1977 Version End Date:

6.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site?

Yes

The following Surface Water Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details
Not shown	1314	S	504900 187400	<p>Status: Active Licence No: 28/39/28/0491 Details: Make-Up Or Top Up Water Direct Source: Thames Surface Water - Non Tidal Point: River Colne At Denham Court, Denham, Bucks Data Type: Point Name: BUCKINGHAMSHIRE GOLF CO LTD</p> <p>Annual Volume (m³): 1095000 Max Daily Volume (m³): 3000 Application No: - Original Start Date: 6/12/1990 Expiry Date: - Issue No: 100 Version Start Date: 3/9/1992 Version End Date:</p>
Not shown	1909	S	505000 186800	<p>Status: Active Licence No: 28/39/28/0491 Details: Make-Up Or Top Up Water Direct Source: Thames Surface Water - Non Tidal Point: River Colne At Denham Court Golf Club, Denham Data Type: Point Name: BUCKINGHAMSHIRE GOLF CO LTD</p> <p>Annual Volume (m³): 1095000 Max Daily Volume (m³): 3000 Application No: - Original Start Date: 6/12/1990 Expiry Date: - Issue No: 100 Version Start Date: 3/9/1992 Version End Date:</p>

6.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site?

Yes

The following Potable Water Abstraction Licences records are represented as points, lines and regions on the SPZ and Potable Water Abstraction Licences Map (6c):

ID	Distance (m)	Direction	NGR	Details
2A	228	SW	504830 188563	<p>Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Blackmoor Pumping Station 'i3' Data Type: Point Name: Affinity Water Limited</p> <p>Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/012714 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 104 Version Start Date: Version End Date:</p>
3A	228	SW	504830 188563	<p>Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Blackford Pumping Station 'i3' Data Type: Point Name: Affinity Water Limited</p> <p>Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/012714 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 104 Version Start Date: Version End Date:</p>
4B	288	SW	504881 188450	<p>Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Blackmoor Pumping Station 'i1' Data Type: Point Name: Affinity Water Limited</p> <p>Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/012714 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 104 Version Start Date: Version End Date:</p>

ID	Distance (m)	Direction	NGR	Details	
5B	288	SW	504881 188450	Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Blackford Pumping Station 'I1' Data Type: Point Name: Affinity Water Limited	Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/012714 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 104 Version Start Date: Version End Date:
6	293	SW	504800 188500	Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Blackford Pumping Station 'I' Data Type: Point Name: Affinity Water Limited	Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/011805 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 103 Version Start Date: Version End Date:
7C	325	SW	504839 188430	Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Blackmoor Pumping Station 'i2' Data Type: Point Name: Affinity Water Limited	Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/012714 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 104 Version Start Date: Version End Date:
8C	325	SW	504839 188430	Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Blackford Pumping Station 'i2' Data Type: Point Name: Affinity Water Limited	Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/012714 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 104 Version Start Date: Version End Date:
9	371	SW	504800 188400	Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Blackford Pumping Station 'i' Data Type: Point Name: Affinity Water Limited	Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/011805 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 103 Version Start Date: Version End Date:
10	693	W	504300 188700	Status: Historical Licence No: 28/39/28/0468 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Borehole At North Orbital Road, Denham Data Type: Point Name: ROUSSEL LABORATORIES LTD	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 11/6/1985 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:
Not shown	1398	NW	503930 189819	Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Northmoor Pumping Station 'h2' Data Type: Point Name: Affinity Water Limited	Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/012714 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 104 Version Start Date: Version End Date:
Not shown	1400	NW	503930 189822	Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Northmoor Pumping Station 'h1' Data Type: Point Name: Affinity Water Limited	Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/012714 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 104 Version Start Date: Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	1408	NW	503900 189800	Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Northmoor Pumping Station Data Type: Point Name: Affinity Water Limited	Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/011805 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 103 Version Start Date: Version End Date:
Not shown	1411	NW	503861 189756	Status: Historical Licence No: 28/39/28/0480 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Northmoor Pumping Station 'h3' Data Type: Point Name: Affinity Water Limited	Annual Volume (m³): 32120000 Max Daily Volume (m³): 146152 Original Application No: NPS/WR/012714 Original Start Date: 15/6/1987 Expiry Date: - Issue No: 104 Version Start Date: Version End Date:
Not shown	1971	NW	504000 190600	Status: Historical Licence No: 28/39/28/0432 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Borehole At Troy Lake, West Hyde, Rickmansworth Data Type: Point Name: RICKMANSWORTH SAILING CLUB	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: - Original Start Date: 30/3/1977 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:

6.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site?

Yes

The following Source Protection Zones records are represented on the SPZ and Potable Water Abstraction Map (6c):

ID	Distance (m)	Direction	Zone	Description
1	0	On Site	1	Inner catchment

6.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site?

No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency/Natural Resources Wales information on groundwater vulnerability and soil leaching potential within 500m of the study site? Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Major Aquifer/High Leaching Potential	H1	Soils which readily transmit liquid discharges because they are shallow or susceptible to rapid flow directly to rock, gravel or groundwater.
288	E	Minor Aquifer/Low Leaching Potential	L	Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to attenuate diffuse pollutants.

6.9 River Quality

Is there any Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site? Yes

6.9.1 Biological Quality:

Biological Quality data describes water quality in terms of 83 groups of macroinvertebrates, some of which are pollution sensitive. The results are graded from A ('Very Good') to F ('Bad').

The following Biological Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Biological Quality Grade				
					2005	2006	2007	2008	2009
Not shown	1272	S	505290 187470	River Name: Frays River Reach: Head Of Gravel Pit - Frays End/Start of Stretch: Start of Stretch NGR	A	A	A	B	B

6.9.2 Chemical Quality:

Database searched and no data found.

6.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site? Yes

The following Detailed River Network records are represented on the Hydrology Map (6e):

ID	Distance (m)	Direction	Details
1	20	W	River Name: Grand Union Canal Regent's Canal Welsh River Name: - Alternative Name: - River Type: Canal Main River Status: Currently Undefined
2	212	NW	River Name: Grand Union Canal Regent's Canal Welsh River Name: - Alternative Name: - River Type: Canal Main River Status: Currently Undefined
3	212	NW	River Name: - Welsh River Name: - Alternative Name: - River Type: Secondary River Main River Status: Currently Undefined
4	388	NW	River Name: - Welsh River Name: - Alternative Name: - River Type: Culvert Main River Status: Currently Undefined
5	388	NW	River Name: Grand Union Canal Regent's Canal Welsh River Name: - Alternative Name: - River Type: Canal Main River Status: Currently Undefined
6	494	N	River Name: - Welsh River Name: - Alternative Name: - River Type: Tertiary River Main River Status: Currently Undefined

6.11 Surface Water Features

Are there any surface water features within 250m of the study site?

Yes

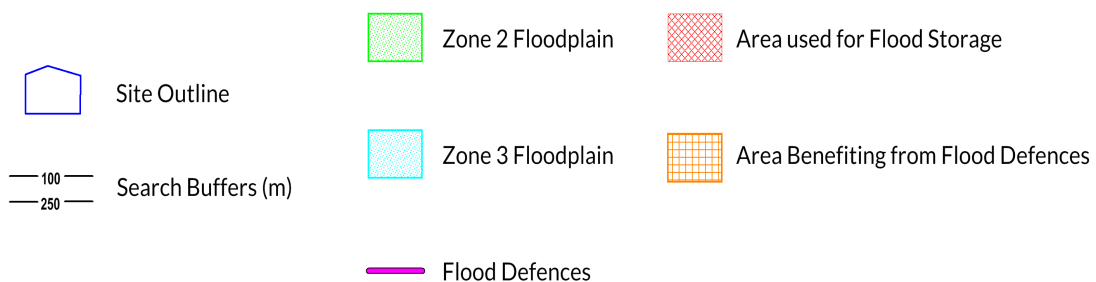
The following surface water records are not represented on mapping:

Distance (m)	Direction
9	W
13	SE
24	SW
34	W
52	W
69	S
111	W
115	W
231	NW
239	NW
242	NW

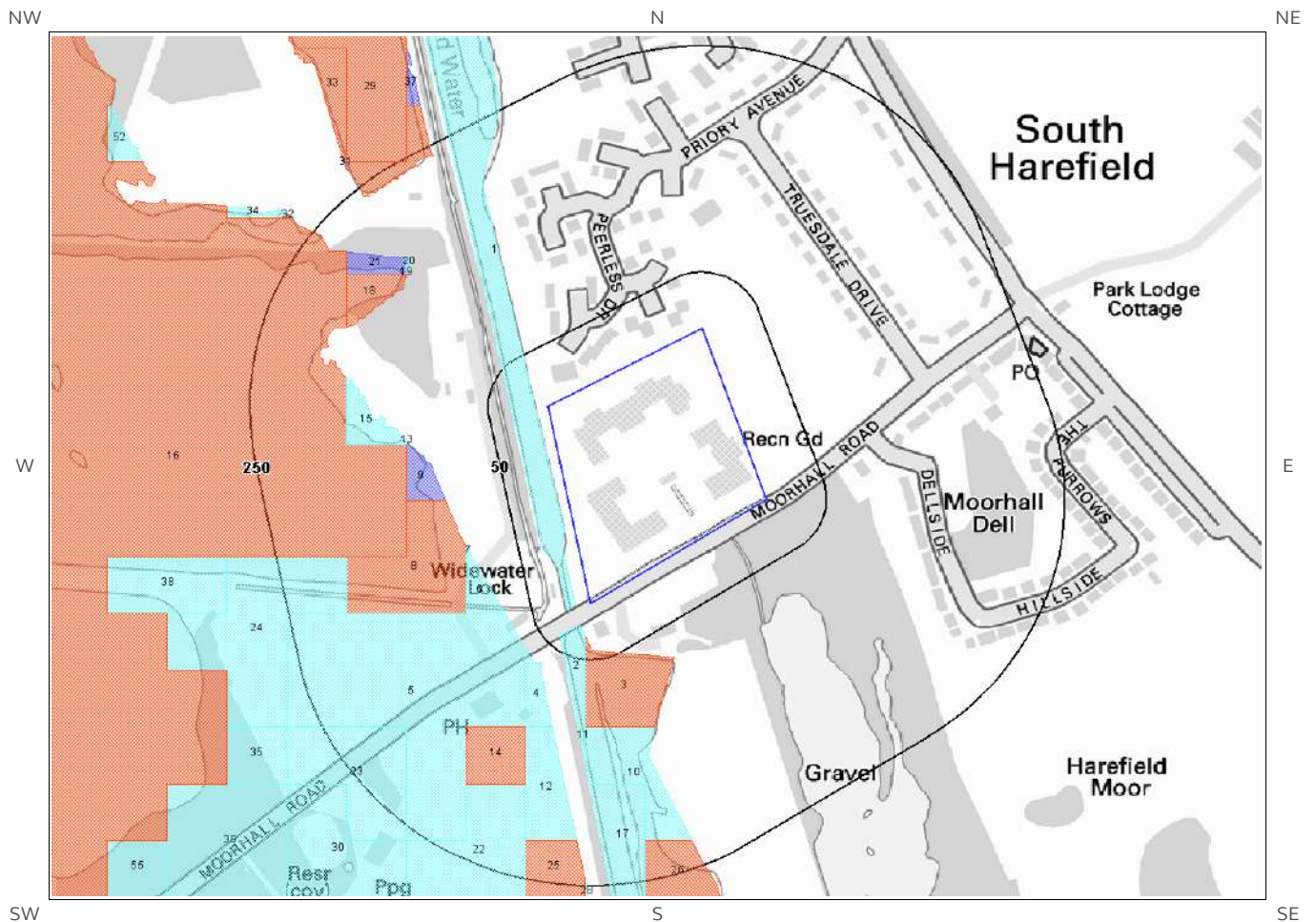
7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)



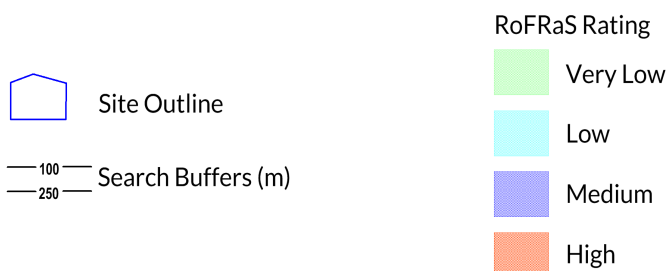
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7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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7 Flooding

7.1 River and Coastal Zone 2 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 2 floodplain? Yes

Environment Agency/Natural Resources Wales Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

ID	Distance (m)	Direction	Update	Type
1	9	W	12-May-2017	Zone 2 - (Fluvial /Tidal Models)
2	22	SW	12-May-2017	Zone 2 - (Fluvial /Tidal Models)
3	67	SW	12-May-2017	Zone 2 - (Fluvial /Tidal Models)

7.2 River and Coastal Zone 3 Flooding

Is the site within 250m of an Environment Agency/Natural Resources Wales Zone 3 floodplain? Yes

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

ID	Distance (m)	Direction	Update	Type
1	97	W	15-May-2017	Zone 3 - (Fluvial Models)
2	133	SW	15-May-2017	Zone 3 - (Fluvial Models)

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

What is the highest risk of flooding onsite?

Very Low

The Environment Agency/Natural Resources Wales RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Very Low (less than 1 in 1000) chance of flooding in any given year.

Any relevant data within 250m is represented on the RoFRaS Flood map. Data to 50m is reported in the table below.

ID	Distance (m)	Direction	RoFRaS flood Risk
1	9.0	W	Low
2	22.0	SW	Low
3	29.0	S	High

7.4 Flood Defences

Are there any Flood Defences within 250m of the study site?

No

Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site?

Yes

7.6 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site?

No

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site? Yes

Does this relate to Clearwater Flooding or Superficial Deposits Flooding?

Clearwater Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

7.8 Groundwater Flooding Confidence Areas

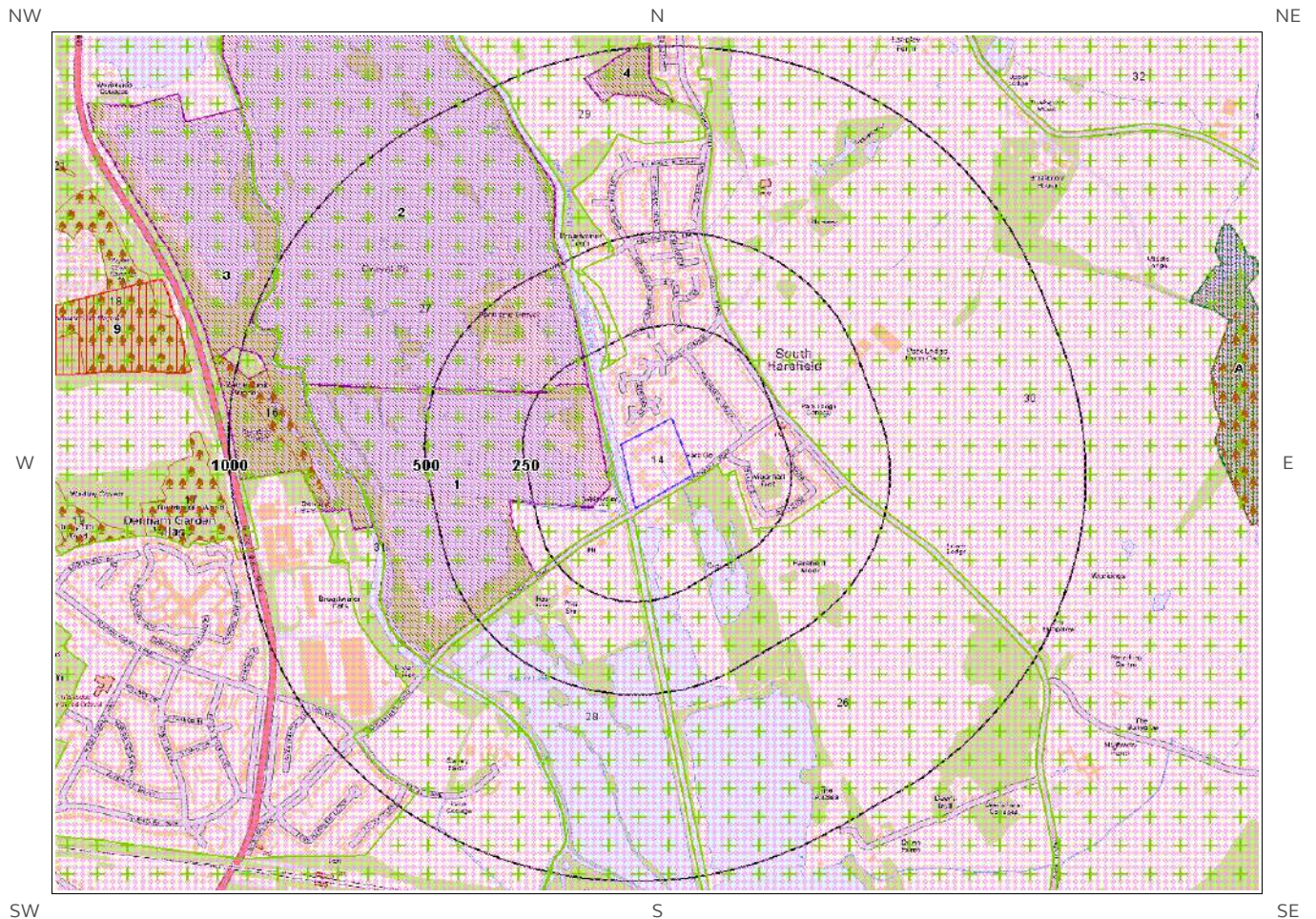
What is the British Geological Survey confidence rating in this result?

High

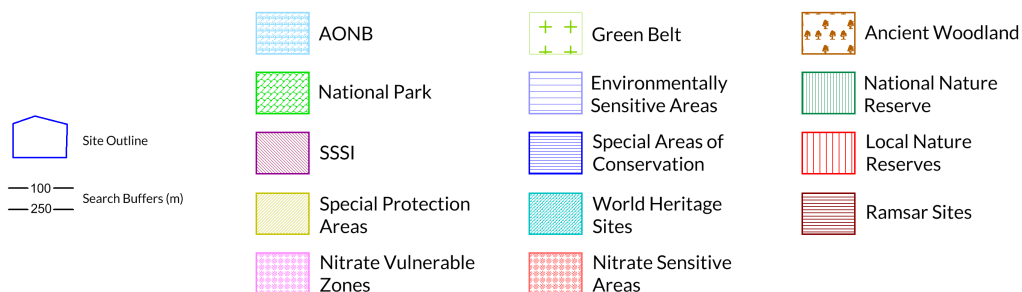
Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

8. Designated Environmentally Sensitive Sites Map



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8. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site?

Yes

8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

7

The following Site of Special Scientific Interest (SSSI) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	SSSI Name	Data Source
1	49	W	Mid Colne Valley	Natural England
2	179	NW	Mid Colne Valley	Natural England
3	662	W	Mid Colne Valley	Natural England
4	842	N	Harefield Pit	Natural England
Not shown	1192	NW	Mid Colne Valley	Natural England
6A	1331	E	Ruislip Woods	Natural England
Not shown	1656	NW	Mid Colne Valley	Natural England

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

1

The following National Nature Reserve (NNR) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NNR Name	Data Source
8A	1331	E	Ruislip Woods	Natural England

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

8.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

8.6 Records of Ancient Woodland within 2000m of the study site:

10

The following records of Designated Ancient Woodland provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
16	757	W	UNKNOWN	Ancient and Semi-Natural Woodland
17	1006	W	UNKNOWN	Ancient and Semi-Natural Woodland
18	1112	W	UNKNOWN	Ancient and Semi-Natural Woodland
19	1257	W	UNKNOWN	Ancient and Semi-Natural Woodland
20A	1331	E	UNKNOWN	Ancient and Semi-Natural Woodland
21	1568	NW	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1574	NE	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1611	W	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1729	W	UNKNOWN	Ancient and Semi-Natural Woodland
Not shown	1759	NE	UNKNOWN	Ancient and Semi-Natural Woodland

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

5

The following Local Nature Reserve (LNR) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	LNR Name	Data Source
9	1112	W	NorthmoorHill Wood	Natural England
Not shown	1150	S	Denham Country Park	Natural England
Not shown	1152	S	Denham Quarry Park	Natural England
Not shown	1181	S	Frays Valley	Natural England
Not shown	1514	SE	Frays Valley	Natural England

8.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

8.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

2

The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NVZ Name	Data Source
14	0	On Site	Existing	DEFRA
Not shown	1048	N	Existing	DEFRA

8.14 Records of Green Belt land within 2000m of the study site:

11

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ID	Distance	Direction	Green Belt Name	Local Authority Name
26	13	SE	London Area Greenbelt	Hillingdon London Borough
27	26	W	London Area Greenbelt	Hillingdon London Borough
28	34	SW	London Area Greenbelt	Hillingdon London Borough
29	198	NW	London Area Greenbelt	Hillingdon London Borough
30	251	NE	London Area Greenbelt	Hillingdon London Borough
31	637	SW	London Area Greenbelt	South Bucks District
32	1233	NE	London Area Greenbelt	Hillingdon London Borough
Not shown	1510	NW	London Area Greenbelt	South Bucks District
Not shown	1535	NW	London Area Greenbelt	Three Rivers District
Not shown	1675	N	London Area Greenbelt	Hillingdon London Borough
Not shown	1967	NE	London Area Greenbelt	Hillingdon London Borough

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a **Groundsure Geo Insight**, available from our [website](#). The following information has been found:

9.1.1 Shrink Swell

What is the maximum Shrink-Swell* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.

9.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

9.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Significant soluble rocks are present. Problems unlikely except with considerable surface or subsurface water flow. No special actions required to avoid problems due to soluble rocks. No special ground investigation required or increased construction costs are likely. An increase in financial risk due to potential problems with soluble rocks is unlikely.

* This indicates an automatically generated 50m buffer and site.

9.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site?

Moderate

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.

9.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site?

Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

9.1.6 Running Sand

What is the maximum Running Sand** hazard rating identified on the study site?

Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property no significant increase in insurance risk due to running sand problems is likely.

9.2 Radon

9.2.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

* This indicates an automatically generated 50m buffer and site.

Is the property in an area where Radon Protection are required for new properties or extensions to existing

ones as described in publication BR211 by the Building Research Establishment?

No radon protective measures are necessary.

10. Mining

10.1 Coal Mining

Are there any coal mining areas within 75m of the study site? No

Database searched and no data found.

10.2 Non-Coal Mining

Are there any Non-Coal Mining areas within 50m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

Distance (m)	Direction	Name	Commodity	Assessment of likelihood
29.0	NE	Not available	Chalk	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

Past underground mine workings may occur. The rock types present in these areas are such that small mineral veins may be present on which it is possible that small scale mining has been undertaken and/or it is possible that limited underground extraction of other materials may have occurred. All such occurrences are likely to be of minor localised extent and infrequent. It should be noted, however, that there is always the possibility of the existence of other sub-surface excavations, such as wells, cess pits, follies, air raid shelters/bunkers and other military structures etc. that could affect surface ground stability but which are outside the scope of this dataset. However, if in a coalfield area you should still consider a Coal Authority mining search for the area of interest.

10.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? No

Guidance: No Guidance Required.

Contact Details

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BGS Geological Hazards Reports and general geological enquiries:
enquiries@bgs.ac.uk



**British
Geological Survey**

NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

National Customer Contact Centre, PO Box 544
Rotherham, S60 1BY
Tel: 03708 506 506

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Email: enquiries@environment-agency.gov.uk



Public Health England

Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
www.gov.uk/phe

Email: enquiries@phe.gov.uk
Main switchboard: 020 7654 8000



**Public Health
England**

The Coal Authority

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Mansfield
Notts NG18 4RG
Tel: 0345 7626 848
DX 716176 Mansfield 5
www.coal.gov.uk



**The Coal
Authority**

Ordnance Survey

Adanac Drive, Southampton
SO16 0AS
Tel: 08456 050505



Local Authority

Authority: London Borough of Hillingdon
Phone: 01895 250 111

Web: <http://www.hillingdon.gov.uk/>

Address: Civic Centre, High Street, Uxbridge, Middlesex, UB8 1UW

Gemapping PLC

Virginia Villas, High Street, Hartley Witney,
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<https://www.groundsure.com/terms-and-conditions-sept-2016>

Jomas Associates Ltd

Lakeside House, 1 Furzeground Way,
Stockley Park, UB11 1BD

Report Reference: HMD-377-4002614

Your Reference: P1001J1102-1

Report Date 20 Jun 2017

Report Delivery Email - pdf
Method:

Geo Insight

Address: WIDEWATER, MOORHALL ROAD, UXBRIDGE, UB9 6NS

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geo Insight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on +44843 289 2187 quoting the above report reference number.

Yours faithfully,

Jomas Associates Ltd

Enc.
Groundsure Geo Insight

Address: WIDEWATER, MOORHALL ROAD, UXBRIDGE, UB9 6NS
Date: 20 Jun 2017
Reference: HMD-377-4002614
Client: Jomas Associates Ltd



Aerial Photograph Capture date: 07-Jun-2015
Grid Reference: 505058,188836
Site Size: 2.61ha

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Overview of Findings

The Groundsure Geo Insight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 and 1:10,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Non-coal mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and Groundsure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Geology 1:10,000 Scale

1.1 Artificial Ground	1.1 Is there any Artificial Ground/ Made Ground present beneath the study site at 1:10,000 scale?	Yes
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site at 1:10,000 scale?*	Yes
	1.2.2 Are there any records of landslide within 500m of the study site boundary at 1:10,000 scale?	No
1.3 Bedrock, Solid Geology and Faults	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records of faults within 500m of the study site boundary at 1:10,000 scale?	No

Section 2: Geology 1:50,000 Scale

2.1 Artificial Ground	2.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	Yes
	2.1.2 Are there any records relating to permeability of artificial ground within the study site*boundary?	Yes
2.2 Superficial Geology and Landslips	2.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?*	Yes
	2.2.2 Are there any records of permeability of superficial ground within 500m of the study site?	Yes
	2.2.3 Are there any records of landslide within 500m of the study site boundary?	No
	2.2.4 Are there any records relating to permeability of landslips within the study site* boundary?	No

Section 2: Geology 1:50,000 Scale

2.3 Bedrock, Solid Geology and Faults

2.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.

2.3.2 Are there any records relating to permeability of bedrock ground within the study site boundary?

Yes

2.3.3 Are there any records of faults within 500m of the study site boundary?

No

Section 3: Radon

3. Radon

3.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?

The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

3.2 Radon Protection

No radon protective measures are necessary.

Section 4: Ground Workings

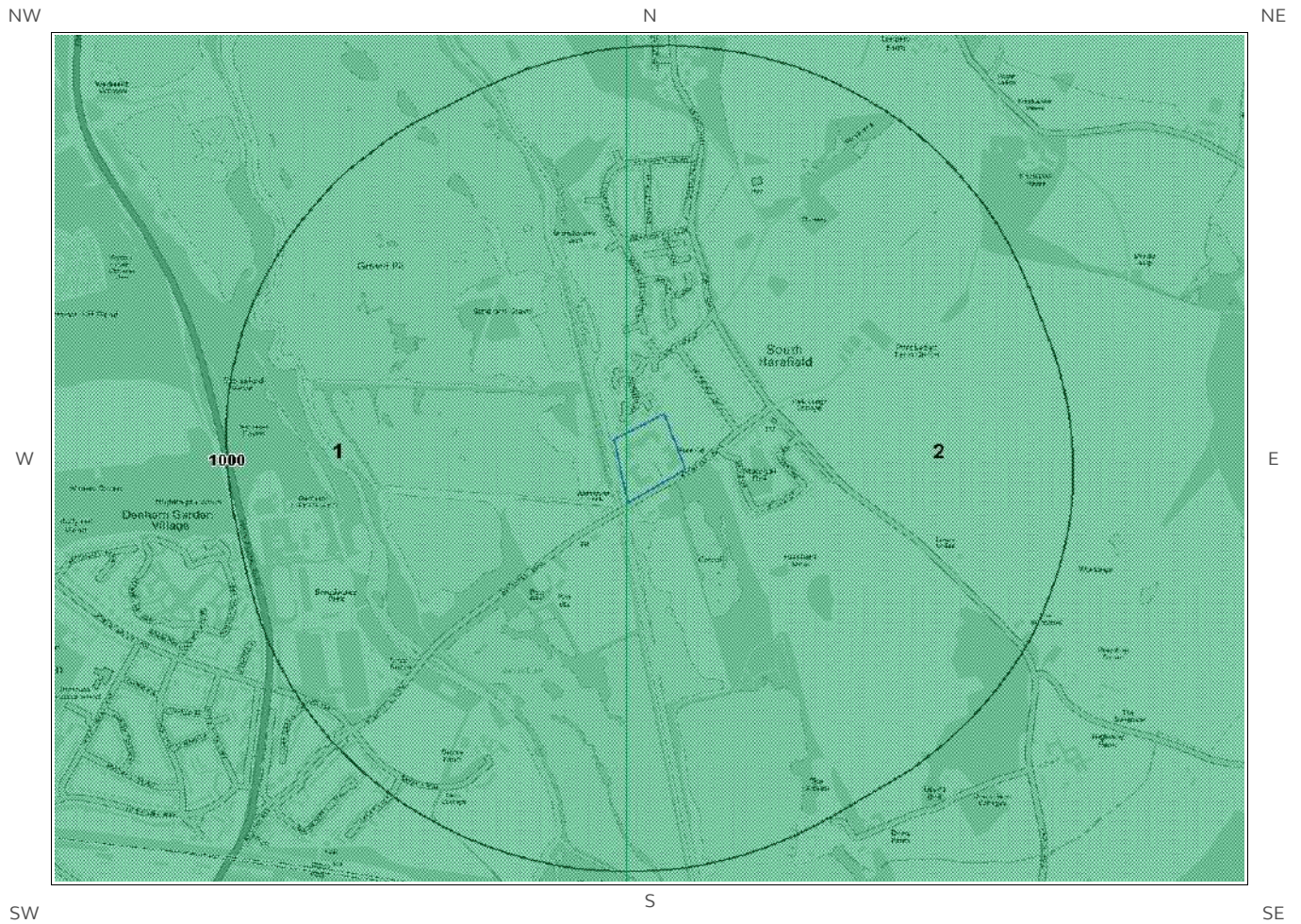
	On-site	0-50m	51-250	251-500	501-1000
4.1 Historical Surface Ground Working Features from Small Scale Mapping	0	25	10	Not Searched	Not Searched
4.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
4.3 Current Ground Workings	0	0	1	5	13

Section 5: Mining, Extraction & Natural Cavities

	On-site	0-50m	51-250	251-500	501-1000
5.1 Historical Mining	0	0	0	0	1
5.2 Coal Mining	0	0	0	0	0
5.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
5.4 Non-Coal Mining*	0	1	0	2	2
5.5 Non-Coal Mining Cavities	0	0	0	0	0
5.5 Natural Cavities	0	0	0	0	0

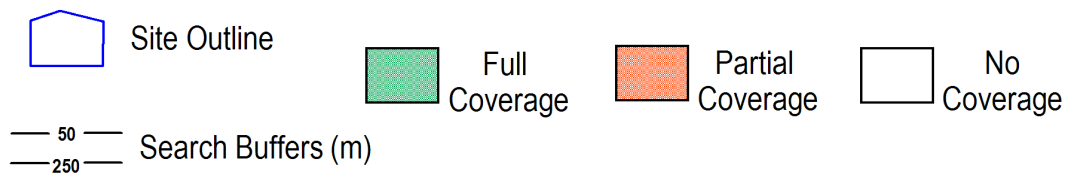
Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.6 Brine Extraction	0	0	0	0	0
5.7 Gypsum Extraction	0	0	0	0	0
5.8 Tin Mining	0	0	0	0	0
5.9 Clay Mining	0	0	0	0	0
Section 6: Natural Ground Subsidence	On-site				
6.1 Shrink-Swell Clay	Very Low				
6.2 Landslides	Very Low				
6.3 Ground Dissolution of Soluble Rocks	Very Low				
6.4 Compressible Deposits	Moderate				
6.5 Collapsible Deposits	Very Low				
6.5 Running Sand	Low				
Section 7: Borehole Records	On-site	0-50m	51-250		
7 BGS Recorded Boreholes	0	0	0		
Section 8: Estimated Background Soil Chemistry	On-site	0-50m	51-250		
8 Records of Background Soil Chemistry	3	7	0		
Section 9: Railways and Tunnels	On-site	0-50m	51-250	250-500	
9.1 Tunnels	0	0	0	Not Searched	
9.2 Historical Railway and Tunnel Features	0	0	0	Not Searched	
9.3 Historical Railways	0	0	0	Not Searched	
9.4 Active Railways	0	0	0	Not Searched	
9.5 Railway Projects	0	0	0	1	

1:10,000 Scale Availability



1_10,000 Availability Legend

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Availability of 1:10,000 Scale Geology Mapping

The following information represents the availability of the key components of the 1:10,000 scale geological data.

ID	Distance	Artificial Coverage	Superficial Coverage	Bedrock Coverage	Mass Movement Coverage
1	0.0	Some deposits are mapped	Full	Full	No coverage
2	0.0	Some deposits are mapped	Full	Full	No coverage
N3	1048.0	Some deposits are mapped	Full	Full	No coverage
N4	1052.0	Some deposits are mapped	Full	Full	No coverage

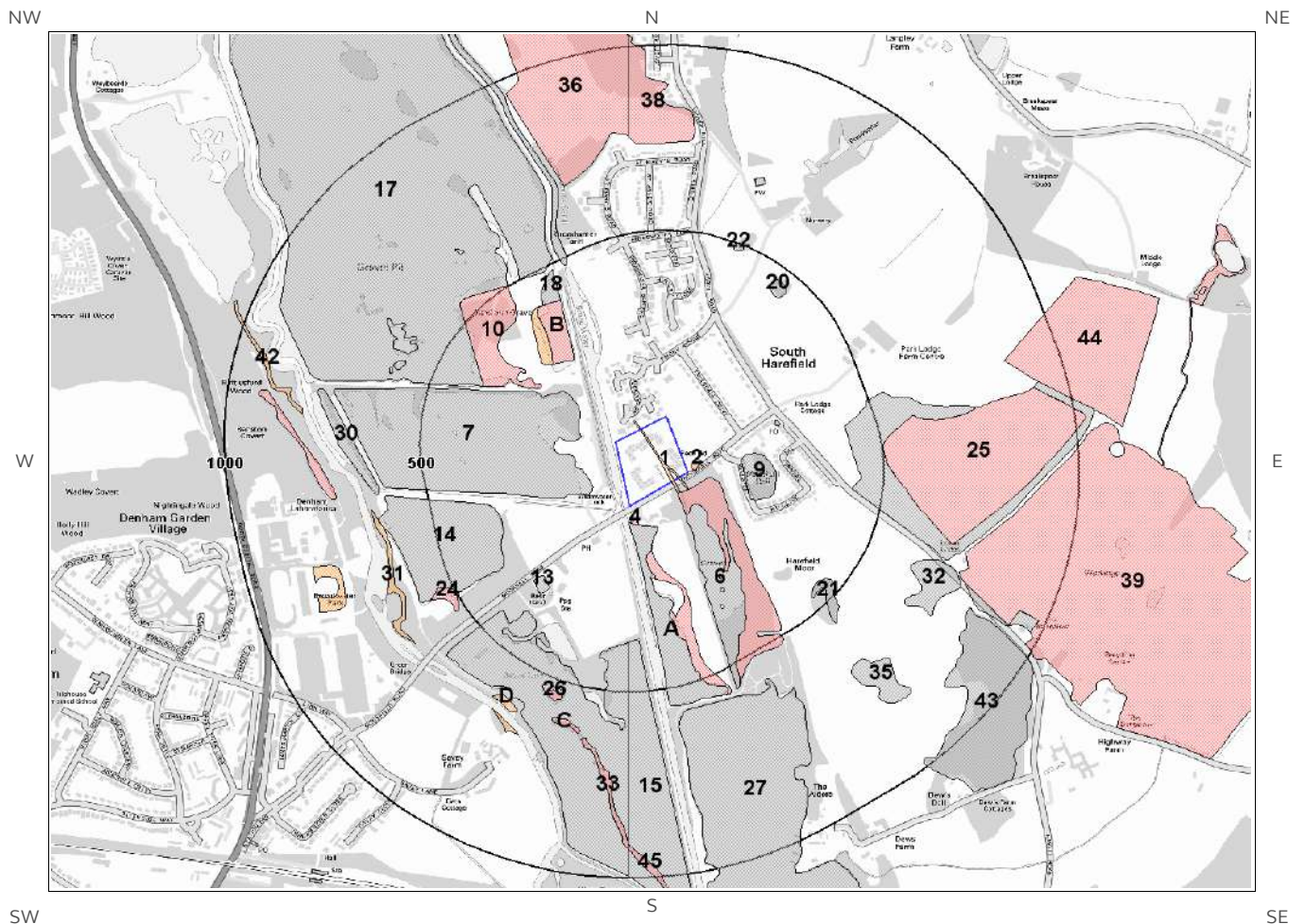
Guidance: The 1:10,000 scale geological interpretation is the most detailed generally available from BGS and is the scale at which most geological surveying is carried out in the field. The database is presented as four types of geology (artificial, mass movement, superficial and bedrock), although not all themes are mapped or available on every map sheet. Therefore a coverage layer showing the availability of the four themes is presented above.

The definitions of coverage are as follows:

Geology	Full Coverage	Partial Coverage	No Coverage
Bedrock	The whole tile has been mapped	Some but not all the tile has been mapped	No coverage
Superficial	The whole tile has been mapped	Some but not all of the tile has been mapped	No coverage
Artificial	Some deposits are mapped on this tile	-	No deposits are mapped
Mass Movement	Some deposits are mapped on this tile	-	No coverage

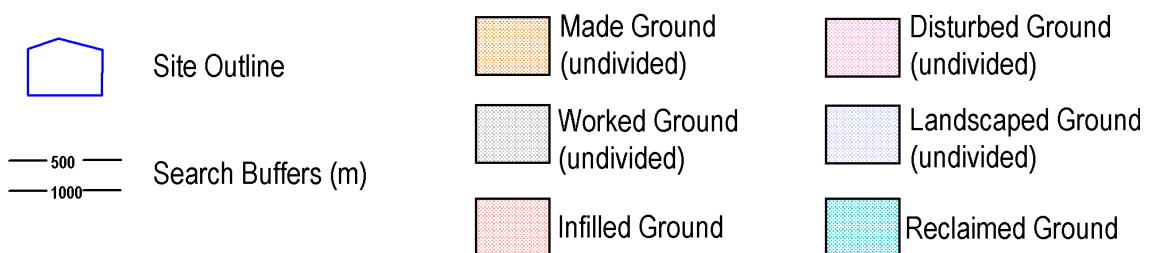
1 Geology (1:10,000 scale).

1.1 Artificial Ground Map (1:10,000 scale)



Artificial Ground Legend

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1. Geology 1:10,000 scale

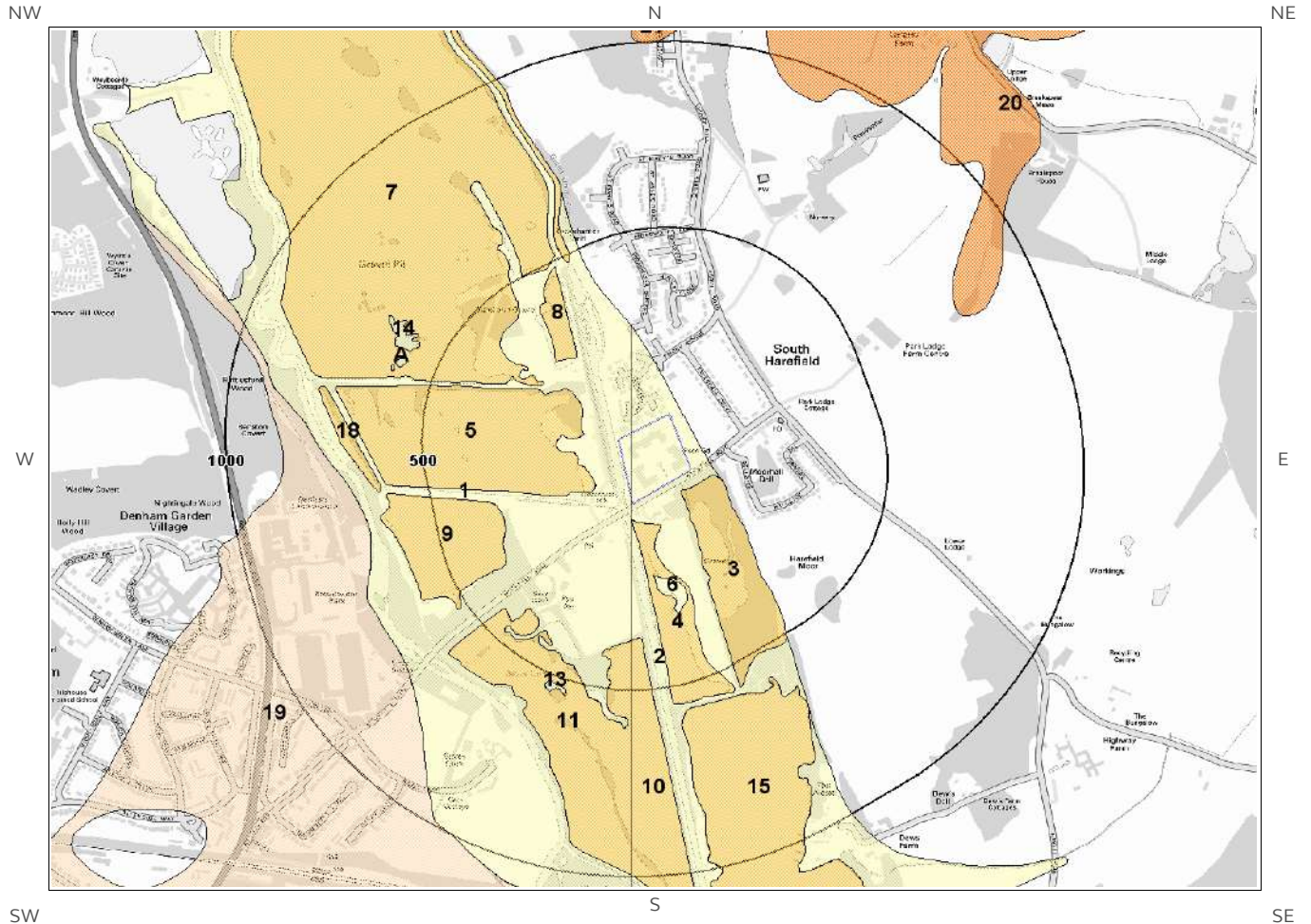
1.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

Are there any records of Artificial/ Made Ground within 500m of the study site boundary at 1:10,000 scale? Yes

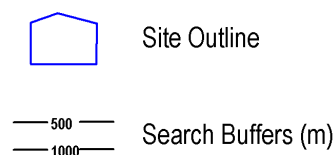
ID	Distance	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	11.0	E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	34.0	SE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
4	37.0	S	WMGR-ARTDP	Infilled Ground	Artificial Deposit
5A	40.0	S	WGR-VOID	Worked Ground (Undivided)	Void
6	81.0	SE	WGR-VOID	Worked Ground (Undivided)	Void
7	83.0	W	WGR-VOID	Worked Ground (Undivided)	Void
8A	129.0	SE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
9	140.0	E	WGR-VOID	Worked Ground (Undivided)	Void
10	244.0	NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
11B	246.0	NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
12B	265.0	NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
13	289.0	SW	WGR-VOID	Worked Ground (Undivided)	Void
14	329.0	W	WGR-VOID	Worked Ground (Undivided)	Void
15	360.0	S	WGR-VOID	Worked Ground (Undivided)	Void
16C	365.0	S	WGR-VOID	Worked Ground (Undivided)	Void
17	369.0	NW	WGR-VOID	Worked Ground (Undivided)	Void
18	404.0	NW	WGR-VOID	Worked Ground (Undivided)	Void
19	419.0	E	WGR-VOID	Worked Ground (Undivided)	Void
20	425.0	NE	WGR-VOID	Worked Ground (Undivided)	Void
21	443.0	SE	WGR-VOID	Worked Ground (Undivided)	Void
22	480.0	N	WGR-VOID	Worked Ground (Undivided)	Void
23	481.0	NW	WGR-VOID	Worked Ground (Undivided)	Void
24	487.0	SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit

1.2 Superficial Deposits and Landslips Map (1:10,000 scale)



Artificial Ground Legend

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1.2 Superficial Deposits and Landslips

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary at 1:10,000 scale? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	ALV-XZC	Alluvium - Silt And Clay	Silt And Clay
2	0.0	On Site	ALV-XZC	Alluvium - Silt And Clay	Silt And Clay
3	34.0	SE	SHGR-XSV	Shepperton Gravel Member - Sand And Gravel	Sand And Gravel
4	40.0	S	SHGR-XSV	Shepperton Gravel Member - Sand And Gravel	Sand And Gravel
5	83.0	W	SHGR-XSV	Shepperton Gravel Member - Sand And Gravel	Sand And Gravel
6	198.0	S	ALV-XZC	Alluvium - Silt And Clay	Silt And Clay
7	244.0	NW	SHGR-XSV	Shepperton Gravel Member - Sand And Gravel	Sand And Gravel
8	246.0	NW	SHGR-XSV	Shepperton Gravel Member - Sand And Gravel	Sand And Gravel
9	329.0	W	SHGR-XSV	Shepperton Gravel Member - Sand And Gravel	Sand And Gravel
10	360.0	S	SHGR-XSV	Shepperton Gravel Member - Sand And Gravel	Sand And Gravel
11	365.0	S	SHGR-XSV	Shepperton Gravel Member - Sand And Gravel	Sand And Gravel
12	481.0	NW	SHGR-XSV	Shepperton Gravel Member - Sand And Gravel	Sand And Gravel

1.2.2 Landslip

Are there any records of Landslip within 500m of the study site boundary at 1:10,000 scale?

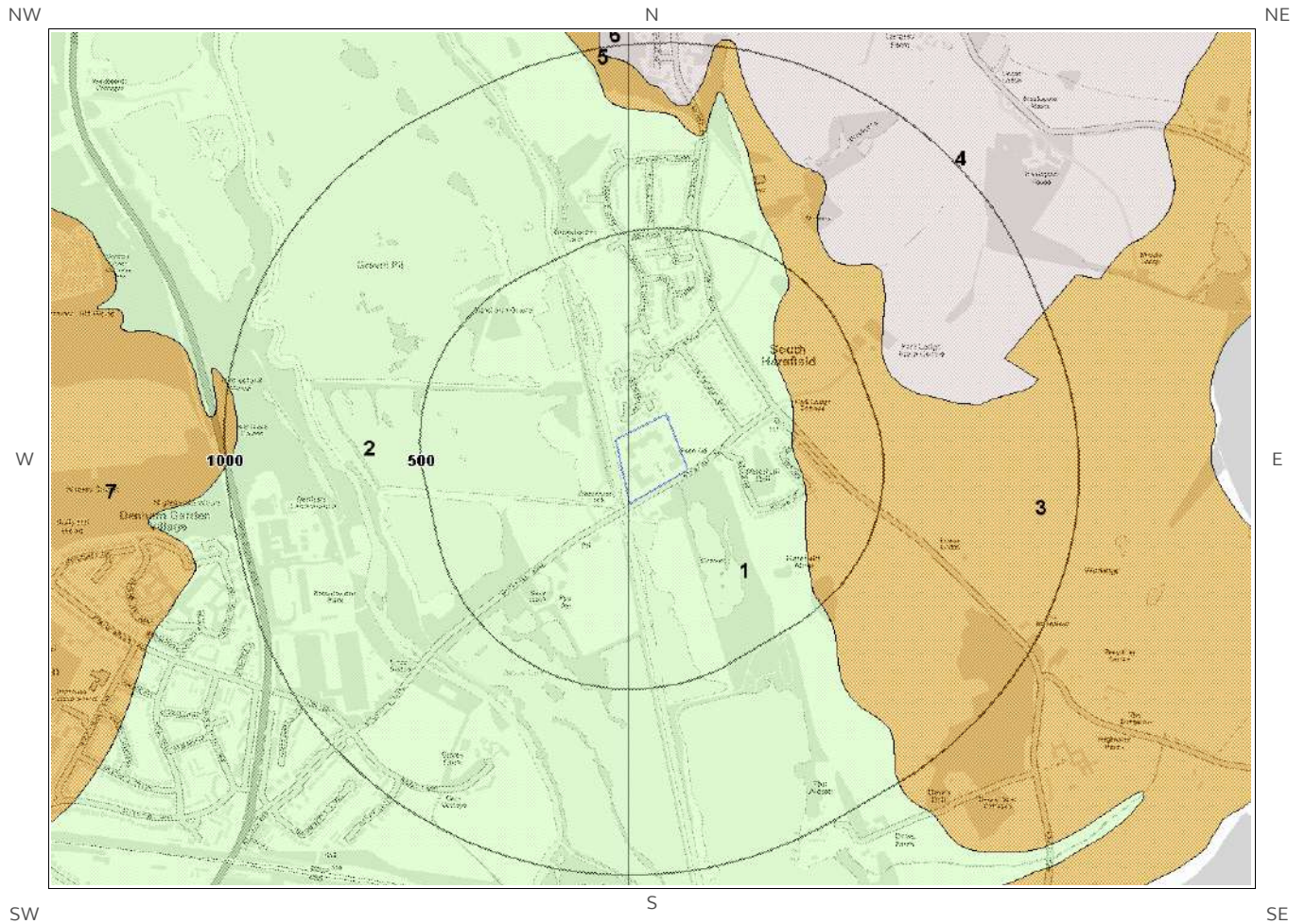
No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:10,000 scale

This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

1.3 Bedrock and Faults Map (1:10,000 scale)

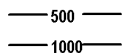


Bedrock and Faults Legend

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Site Outline



Search Buffers (m)

1.3 Bedrock and Faults

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary at 1:10,000 scale.

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	SNCK-CHLK	Seaford Chalk Formation And Newhaven Chalk Formation (undifferentiated) - Chalk	Campanian Age - Coniacian Age
2	0.0	On Site	SNCK-CHLK	Seaford Chalk Formation And Newhaven Chalk Formation (undifferentiated) - Chalk	Campanian Age - Coniacian Age
3	274.0	E	LMBE-CLSISA	Lambeth Group - Clay, Silt And Sand	Paleocene Epoch

1.3.2 Faults

Are there any records of Faults within 500m of the study site boundary at 1:10,000 scale? No

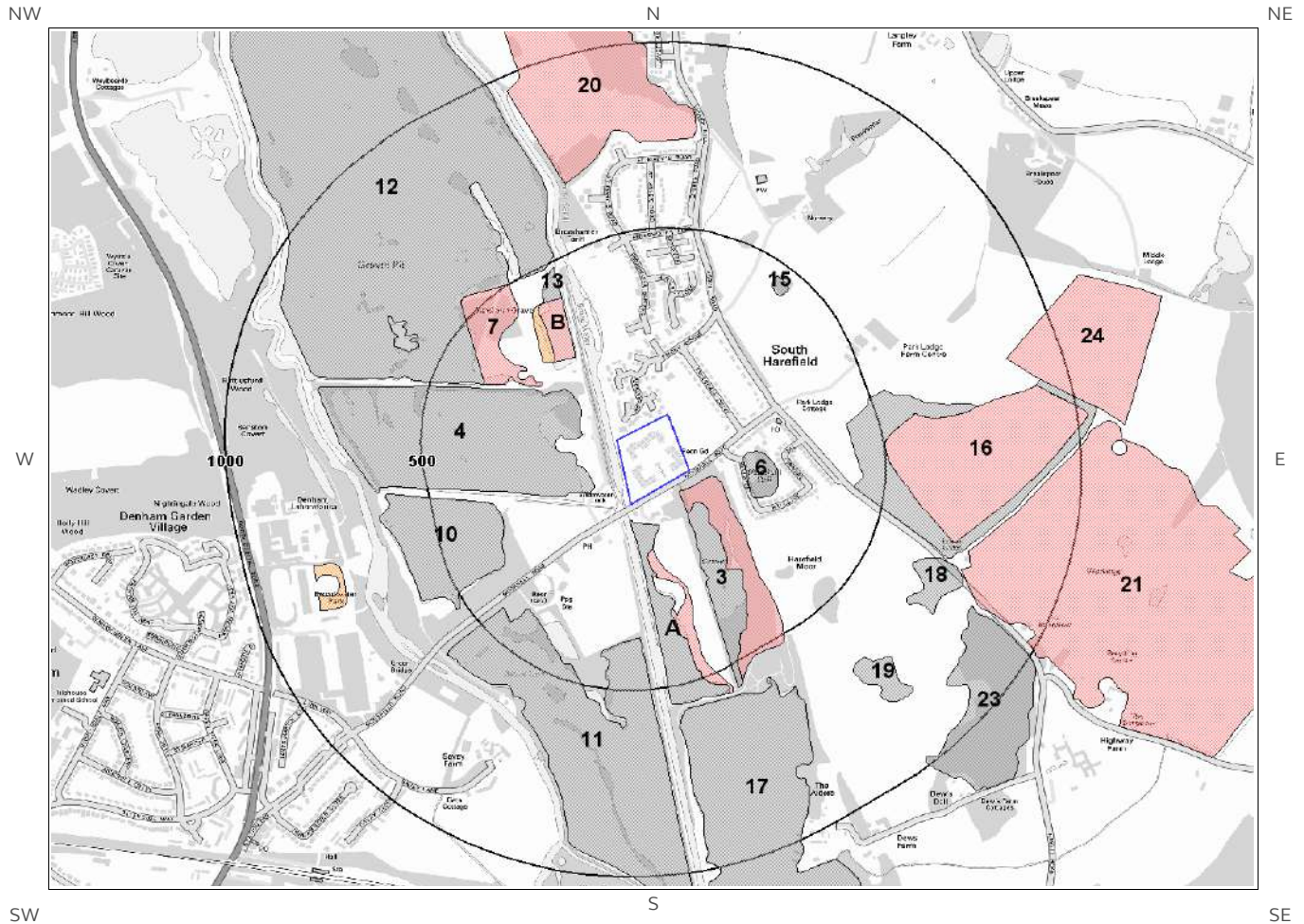
Database searched and no data found at this scale.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of great Britain at 1:10,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

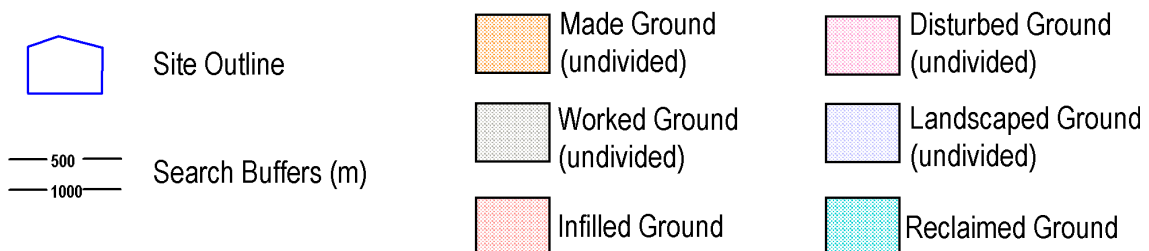
2 Geology 1:50,000 Scale

2.1 Artificial Ground Map



Ground Workings Legend

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2. Geology 1:50,000 scale

2.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 255

2.1.1 Artificial/ Made Ground

Are there any records of Artificial/ Made Ground within 500m of the study site boundary? Yes

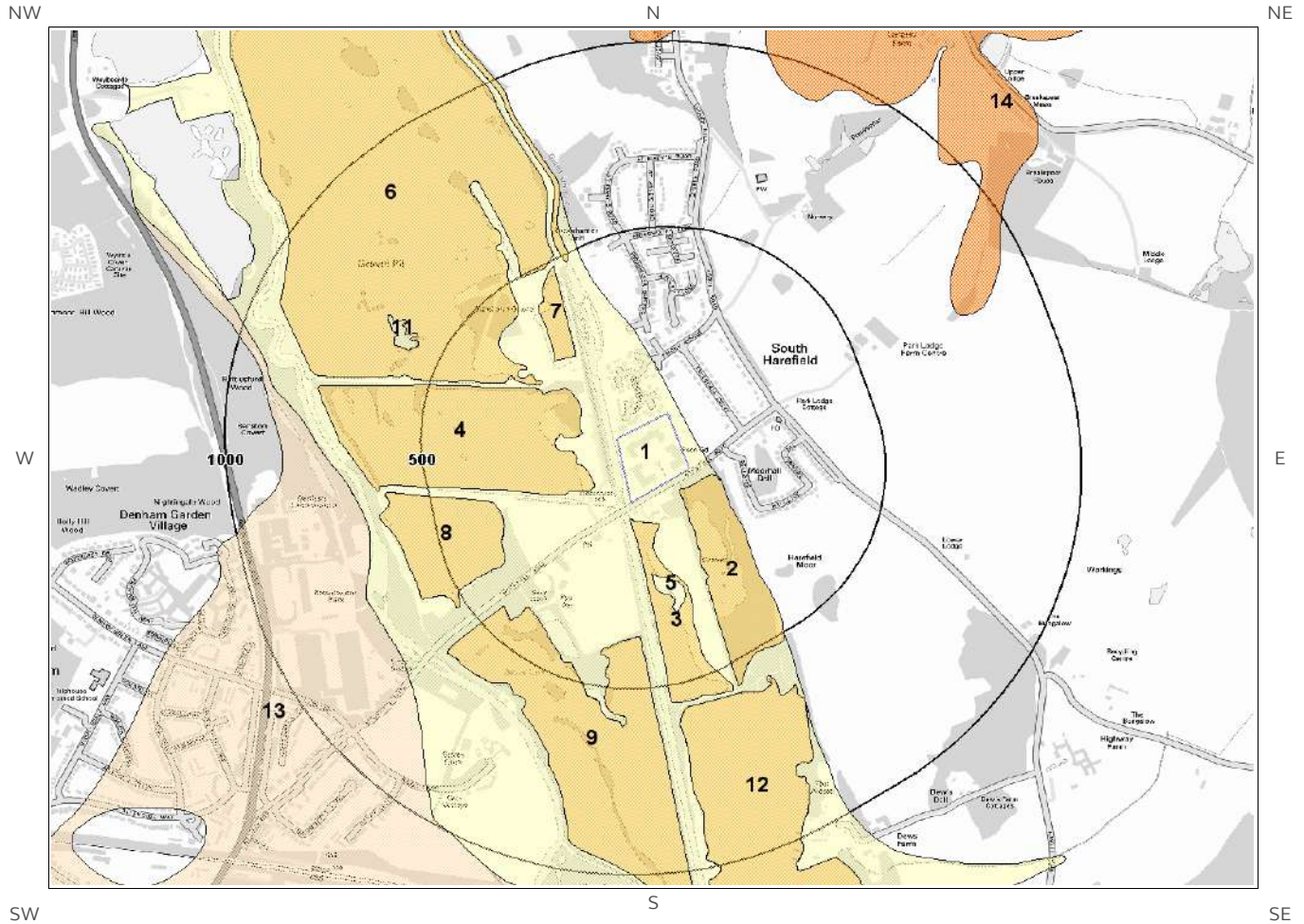
ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	34.0	SE	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
2A	40.0	S	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
3	82.0	SE	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
4	83.0	W	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
5A	129.0	SE	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
6	140.0	E	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
7	243.0	NW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
8B	247.0	NW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
9B	266.0	NW	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
10	329.0	W	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
11	360.0	S	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
12	369.0	NW	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
13	404.0	NW	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
14	420.0	E	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID
15	425.0	NE	WGR-VOID	WORKED GROUND (UNDIVIDED)	VOID

2.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? Yes

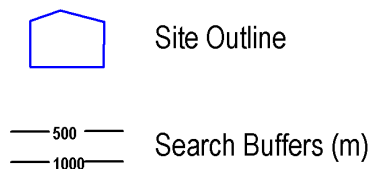
Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
34.0	SE	Mixed	Very High	Low

2.2 Superficial Deposits and Landslips Map (1:50,000 scale)



Ground Workings Legend

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2.2 Superficial Deposits and Landslips

2.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

ID	Distance	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
2	34.0	SE	SHGR-XSV	SHEPPERTON GRAVEL MEMBER	SAND AND GRAVEL
3	40.0	S	SHGR-XSV	SHEPPERTON GRAVEL MEMBER	SAND AND GRAVEL
4	83.0	W	SHGR-XSV	SHEPPERTON GRAVEL MEMBER	SAND AND GRAVEL
5	198.0	S	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
6	243.0	NW	SHGR-XSV	SHEPPERTON GRAVEL MEMBER	SAND AND GRAVEL
7	247.0	NW	SHGR-XSV	SHEPPERTON GRAVEL MEMBER	SAND AND GRAVEL
8	329.0	W	SHGR-XSV	SHEPPERTON GRAVEL MEMBER	SAND AND GRAVEL
9	360.0	S	SHGR-XSV	SHEPPERTON GRAVEL MEMBER	SAND AND GRAVEL
10	481.0	NW	SHGR-XSV	SHEPPERTON GRAVEL MEMBER	SAND AND GRAVEL

2.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Intergranular	High	Very Low
0.0	On Site	Intergranular	High	Very Low
34.0	SE	Intergranular	Very High	High
40.0	S	Intergranular	Very High	High

2.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary?

No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, there are: Artificial/ Made Ground, Superficial/ Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

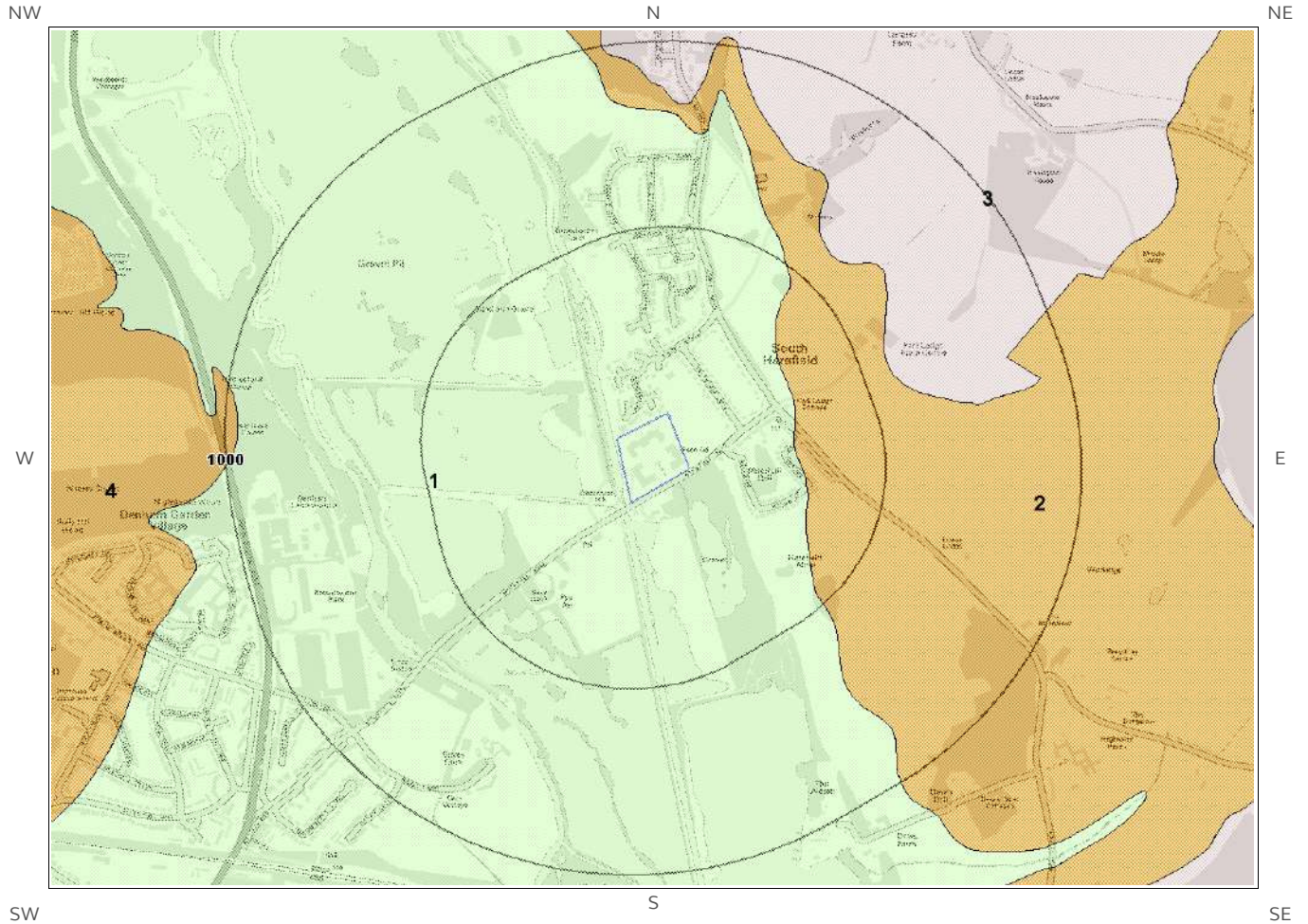
2.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site boundary?

No

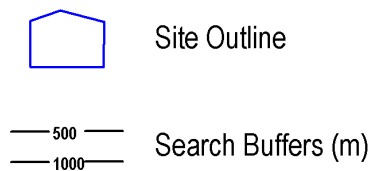
Database searched and no data found.

2.3 Bedrock and Faults Map (1:50,000 scale)



Ground Workings Legend

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2.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 255

2.3.1 Bedrock/Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary:

ID	Distance	Direction	LEX Code	Rock Description	Rock Age
1	0.0	On Site	SNCK-CHLK	SEAFORD CHALK FORMATION AND NEWHAVEN CHALK FORMATION (UNDIFFERENTIATED) - CHALK	CONIACIAN
2	274.0	E	LMBE-XCZS	LAMBETH GROUP - CLAY, SILT AND SAND	THANETIAN

2.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site boundary? Yes

Distance	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	Very High	Very High
0.0	On Site	Fracture	Very High	Very High

2.3.3 Faults

Are there any records of Faults within 500m of the study site boundary? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nation wide coverage.

3 Radon Data

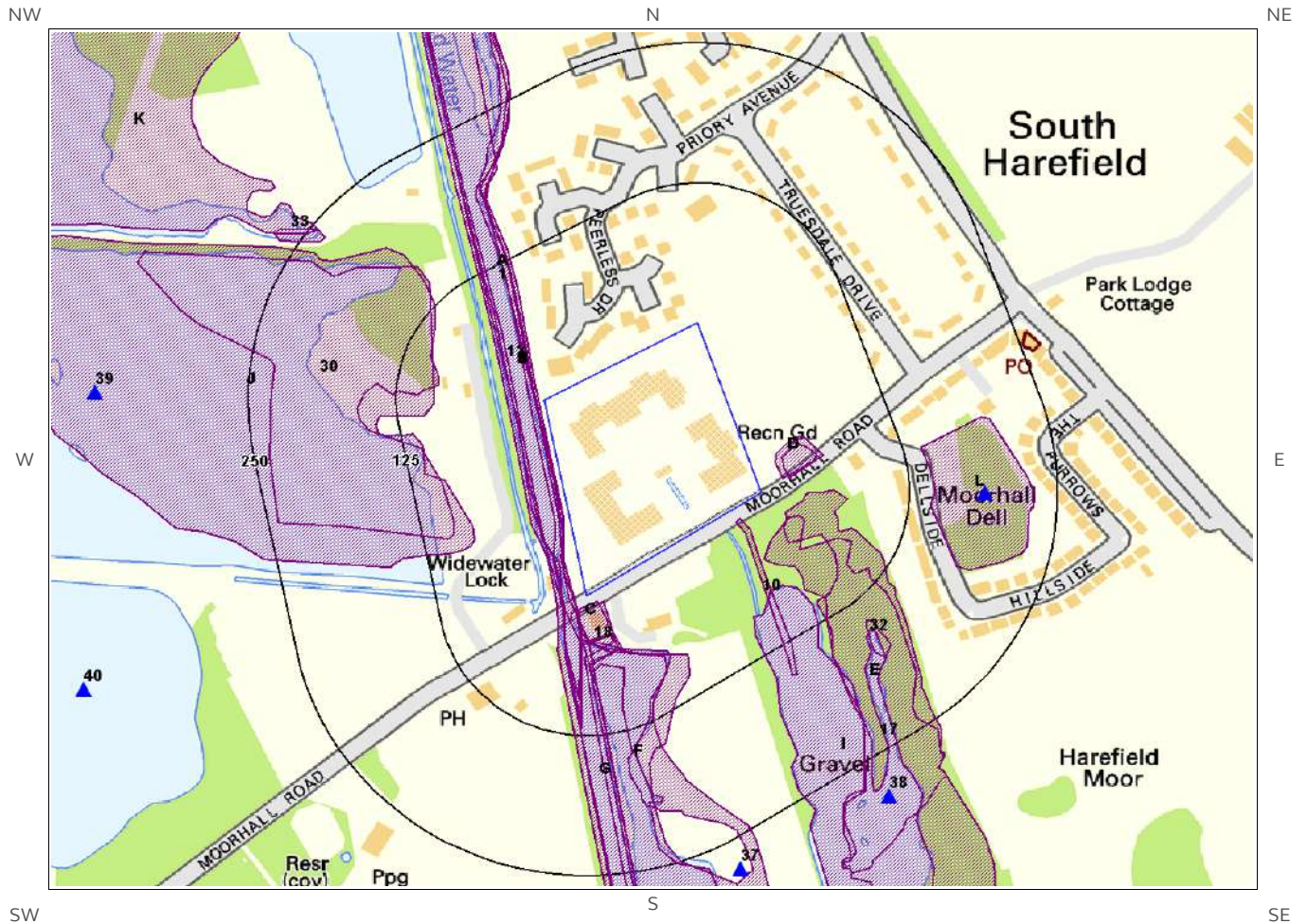
3.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

3.2 Radon Protection

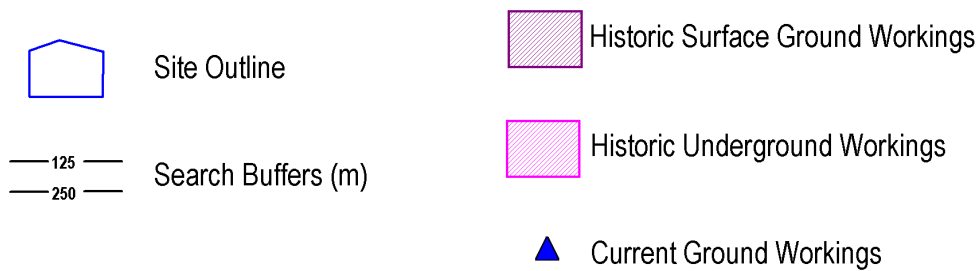
Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary.

4 Ground Workings Map



Ground Workings Legend

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4 Ground Workings

4.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on Groundsure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Use	Date
1	4.0	W	504863 189310	Canal	1955
2A	6.0	W	504863 189310	Canal	1974
3A	6.0	W	504863 189310	Canal	1989
4B	6.0	W	504813 189442	Canal	1934
5B	6.0	W	504813 189442	Canal	1949
6B	6.0	W	504813 189442	Canal	1912
7B	6.0	W	504813 189442	Canal	1934
8	7.0	W	505029 188487	Canal	1865
9C	8.0	SE	505001 188683	Unspecified Wharf	1895
10	10.0	SE	505160 188708	Unspecified Wharf	1955
11C	11.0	SE	505012 188686	Unspecified Wharf	1865
12	12.0	W	504811 189446	Canal	1895
13D	20.0	E	505182 188830	Pond	1895
14D	25.0	E	505187 188833	Pond	1865
15E	27.0	SE	505240 188633	Pond	1934
16E	27.0	SE	505240 188633	Pond	1949
17	32.0	SE	505089 188401	Ponds	1955
18	39.0	S	505018 188663	Unspecified Wharf	1912
19F	39.0	S	505078 188419	Pond	1987
20F	39.0	S	505078 188419	Gravel Pit	1973
21G	39.0	S	505329 186836	Canal	1987

ID	Distance (m)	Direction	NGR	Use	Date
22G	39.0	S	505329 186836	Canal	1973
23G	39.0	S	505329 186836	Canal	1955
24H	40.0	S	505133 188426	Water Body	1934
25H	40.0	S	505133 188426	Water Body	1949
26I	78.0	SE	505223 188468	Gravel Pit	1987
27I	78.0	SE	505223 188468	Gravel Pit	1973
28J	82.0	W	504680 188883	Gravel Pit	1989
29J	82.0	W	504680 188883	Gravel Pit	1974
30	93.0	W	504760 188888	Pond	1955
31L	141.0	E	505336 188800	Unspecified Pit	1865
32	144.0	SE	505251 188671	Gravel Pit	1912
33	235.0	NW	504763 189030	Pond	1955
34K	245.0	NW	504408 189413	Gravel Pit	1974
35K	245.0	NW	504408 189413	Gravel Pit	1989

4.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the Groundsure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? No

Database searched and no data found.

4.3 Current Ground Workings

This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

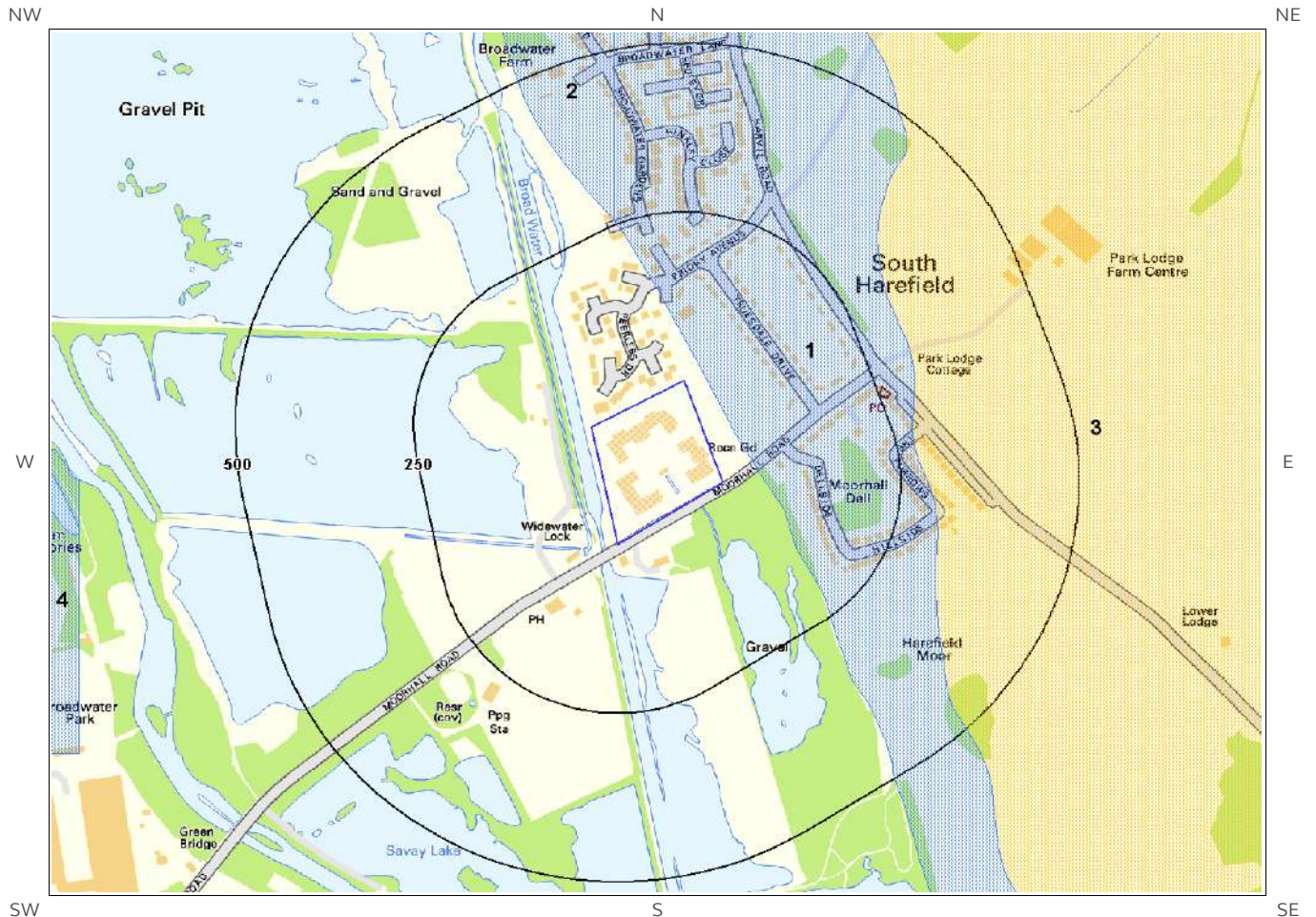
Are there any BGS Current Ground Workings within 1000m of the study site boundary? Yes

The following Current Ground Workings information is provided by British Geological Survey:

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
36L	188.0	E	505341 188801	Chalk	Lodge Farm Chalk Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
37	277.0	SE	505135 188465	Sand & Gravel	Broadwater Lake	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
38	287.0	SE	505260 188530	Sand & Gravel	Broadwater Lake	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
39	379.0	W	504590 188890	Sand & Gravel	Harefield Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
40	434.0	W	504580 188625	Sand & Gravel	Harefield Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	460.0	NE	505390 189308	Chalk	Moorhall Dell	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	639.0	S	504930 188075	Sand & Gravel	Moorhall Road	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	687.0	SE	505775 188510	Sand	Uxbridge Road Sand Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	743.0	SE	505640 188240	Sand	Dews Farm Sand Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	828.0	N	505230 189770	Chalk	Harefield Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	829.0	S	505300 187935	Sand & Gravel	Broadwater Lake	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	839.0	NW	504400 189500	Sand & Gravel	Broadwater Farm	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	852.0	E	506000 188890	Sand	Newyears Green	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	870.0	N	504990 189815	Clay & Shale	Harefield Cement, Lime & Brick Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	908.0	W	504069 189005	Chalk	Battleford Wood Chalk Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	952.0	E	506089 188628	Sand	Uxbridge Road Sand Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	983.0	E	506136 188791	Sand	Uxbridge Road Sand Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	988.0	E	506090 188490	Sand	Uxbridge Road Sand Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	992.0	N	504805 189900	Chalk	Harefield Cement & Brick Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

5 Mining, Extraction & Natural Cavities Map



Mining, Extraction and Natural Cavities Legend

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5 Mining, Extraction & Natural Cavities

5.1 Historical Mining

This dataset is derived from Groundsure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary? Yes

The following Historical Mining information is provided by Groundsure:

ID	Distance (m)	Direction	NGR	Details	Date
Not shown	747.0	N	505090 189761	Disused Copper Workings	1987

5.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	29.0	NE	Not available	Chalk	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
2	257.0	N	Not available	Chalk	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
3	274.0	E	Not available	Chalk	Small scale underground mining may have occurred; mine adits, shafts and tunnels may be present. Potential for localised difficult ground conditions are at a level where they should be considered
4	724.0	W	Not available	Chalk	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
Not shown	829.0	N	Not available	Chalk	Small scale underground mining may have occurred; mine adits, shafts and tunnels may be present. Potential for localised difficult ground conditions are at a level where they should be considered

5.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled "Review of mining instability in Great Britain, 1990" PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? No

Database searched and no data found.

5.6 Natural Cavities

This dataset provides information based on Peter Brett Associates natural cavities database.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

5.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

5.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level..

Are there any Tin Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

5.10 Clay Mining

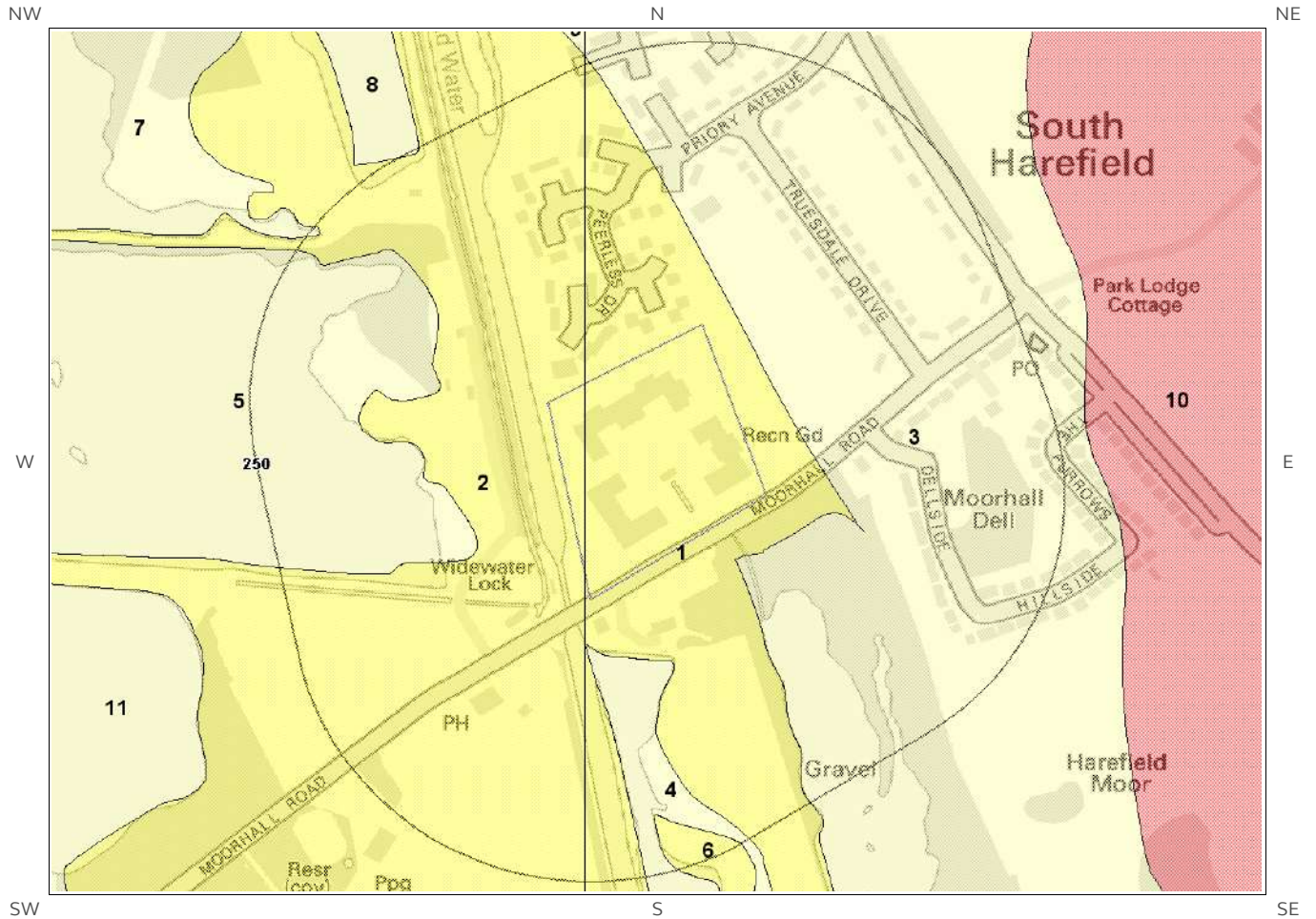
This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

Are there any Clay Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

6 Natural Ground Subsidence

6.1 Shrink-Swell Clay Map

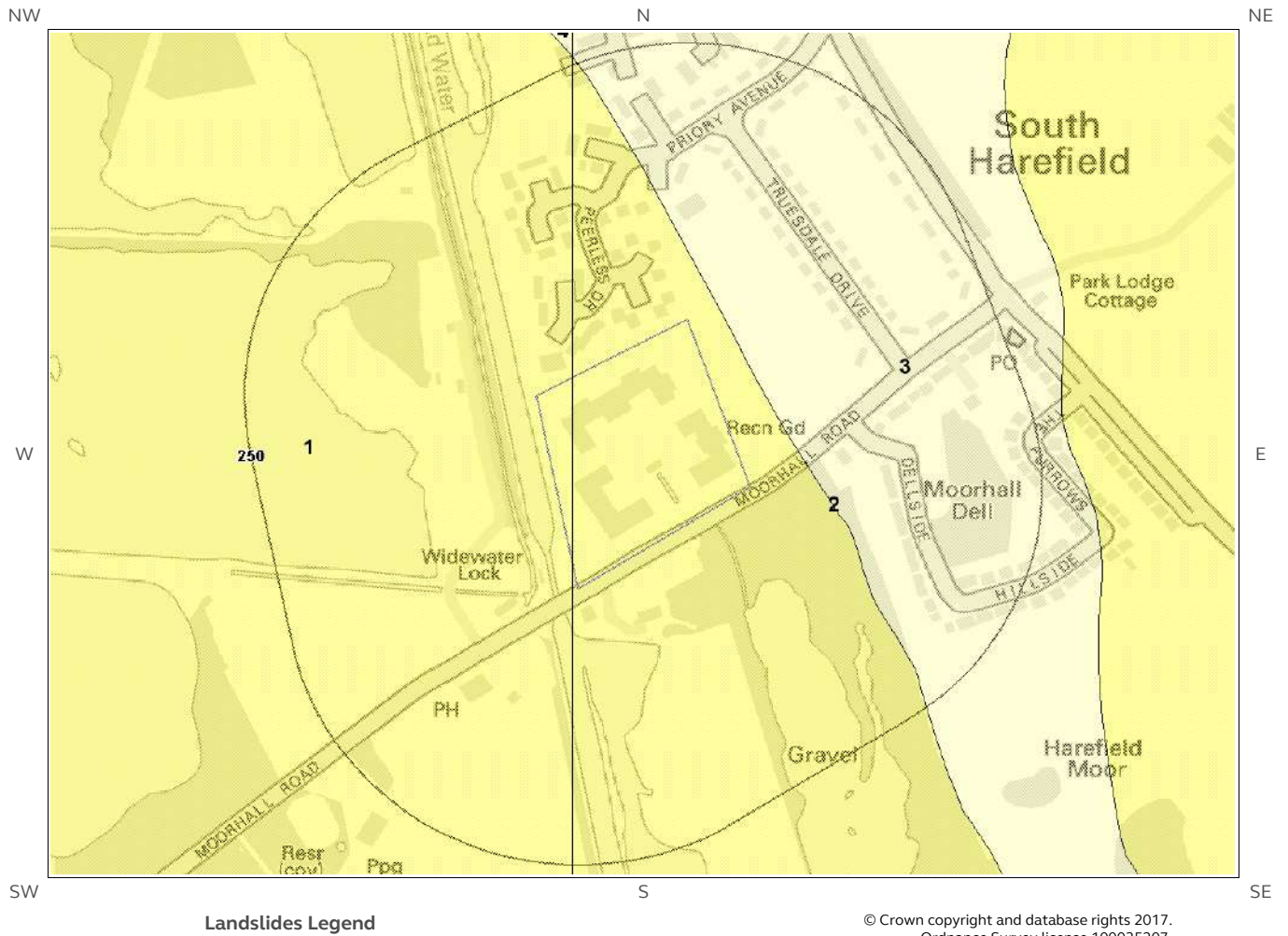


Shrink Swell Clay Legend

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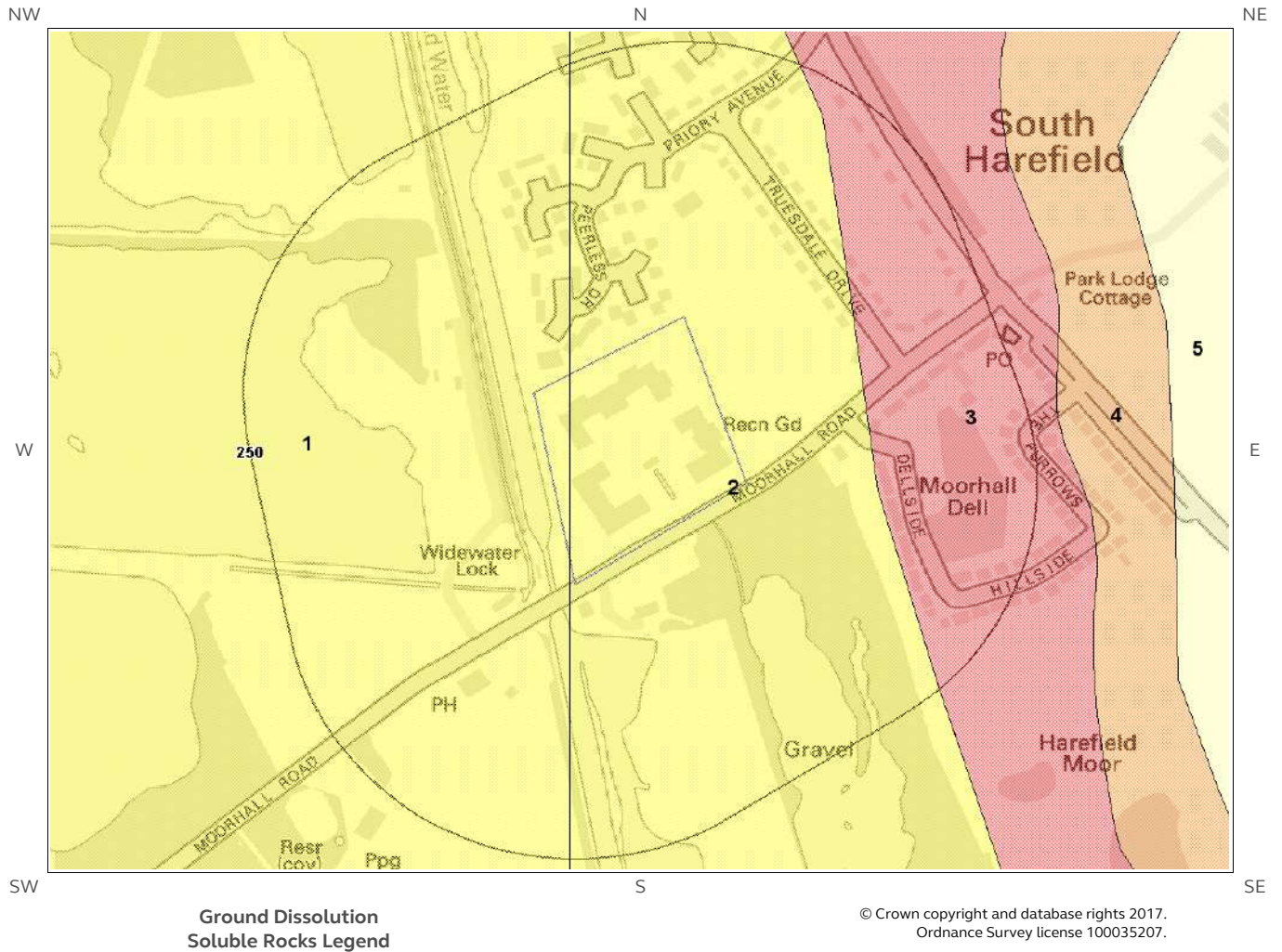
6.2 Landslides Map



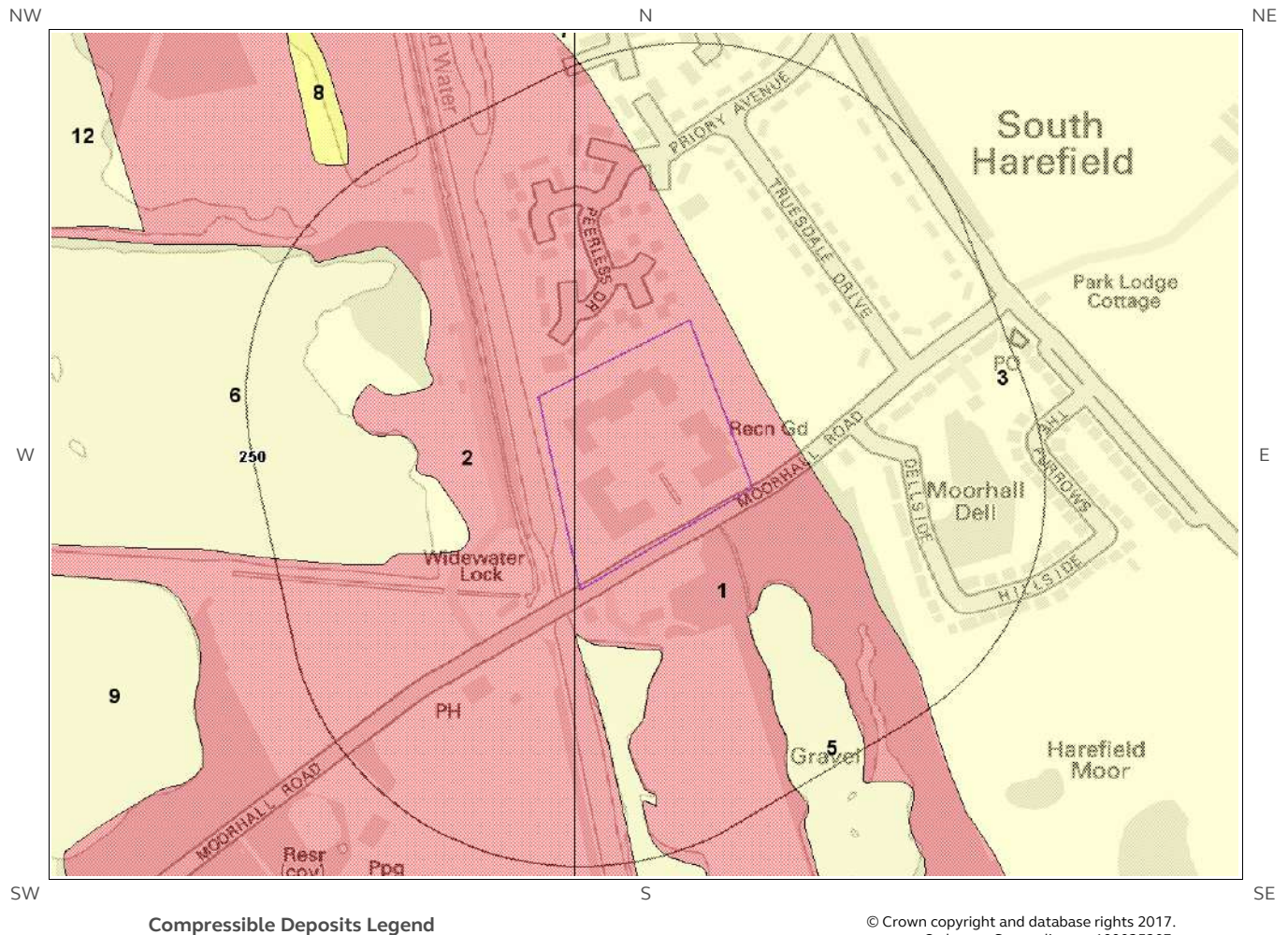
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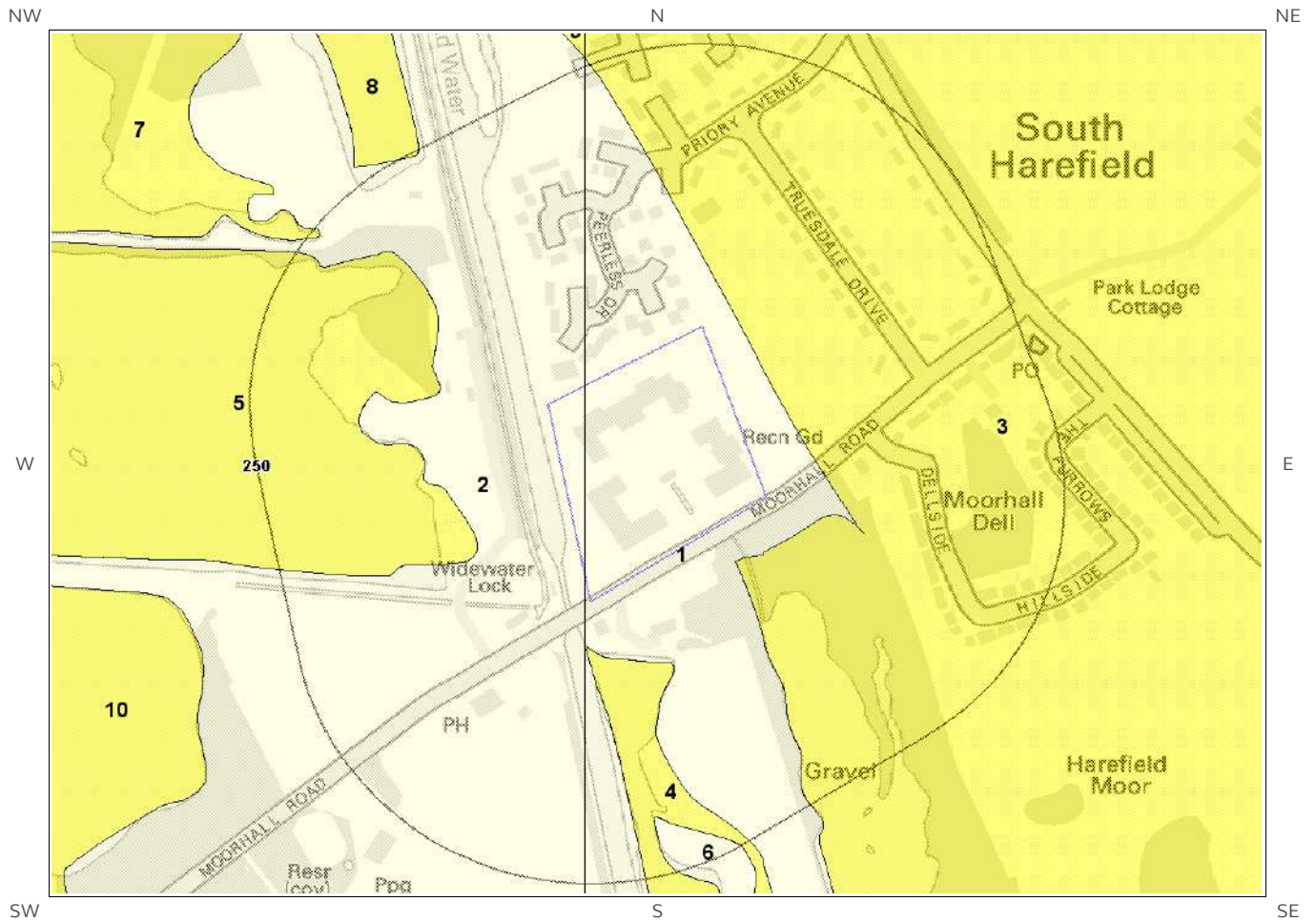
6.3 Ground Dissolution of Soluble Rocks Map



6.4 Compressible Deposits Map



6.5 Collapsible Deposits Map

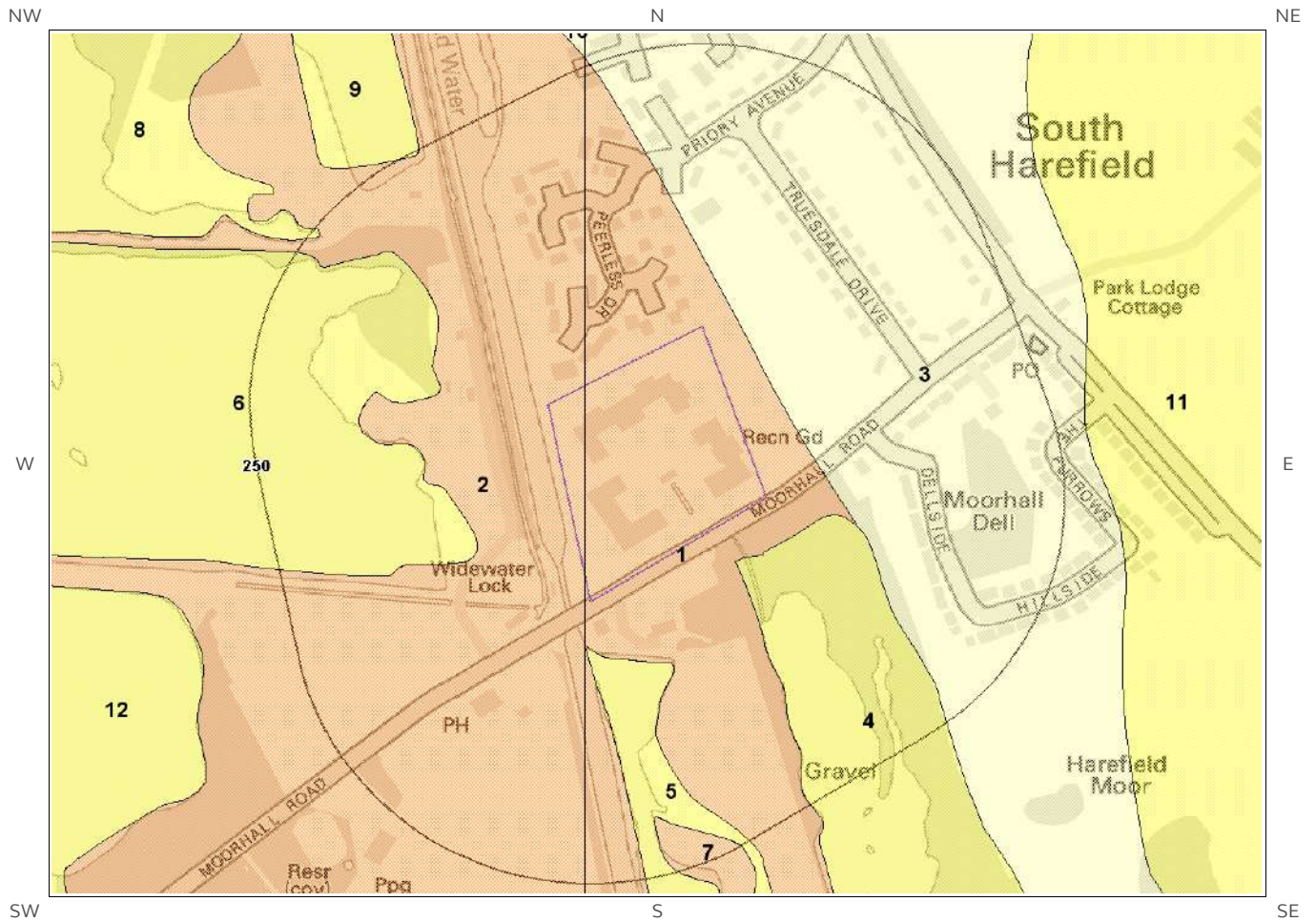


Collapsible Deposits Legend

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6.6 Running Sand Map



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6 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site* boundary? **Moderate**

6.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.
2	0.0	On Site	Very Low	Ground conditions predominantly low plasticity. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with shrink-swell clays.
3	29.0	NE	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.
4	40.0	S	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.

* This includes an automatically generated 50m buffer zone around the site

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.
2	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.
3	29.0	NE	Negligible	No indicators for slope instability identified. No special actions required to avoid problems due to landslides. No special ground investigation required and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

6.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Significant soluble rocks are present. Problems unlikely except with considerable surface or subsurface water flow. No special actions required to avoid problems due to soluble rocks. No special ground investigation required or increased construction costs are likely. An increase in financial risk due to potential problems with soluble rocks is unlikely.
2	0.0	On Site	Very Low	Significant soluble rocks are present. Problems unlikely except with considerable surface or subsurface water flow. No special actions required to avoid problems due to soluble rocks. No special ground investigation required or increased construction costs are likely. An increase in financial risk due to potential problems with soluble rocks is unlikely.

6.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Moderate	Significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build - consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property - possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.

ID	Distance (m)	Direction	Hazard Rating	Details
2	0.0	On Site	Moderate	Significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build - consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property - possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.
3	29.0	NE	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.
4	40.0	S	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

6.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for collapsible deposits identified. No actions required to avoid problems due to collapsible deposits. No special ground investigation required, or increased construction costs or increased financial risk due to potential problems with collapsible deposits.
2	0.0	On Site	Negligible	No indicators for collapsible deposits identified. No actions required to avoid problems due to collapsible deposits. No special ground investigation required, or increased construction costs or increased financial risk due to potential problems with collapsible deposits.
3	29.0	NE	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.
4	40.0	S	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

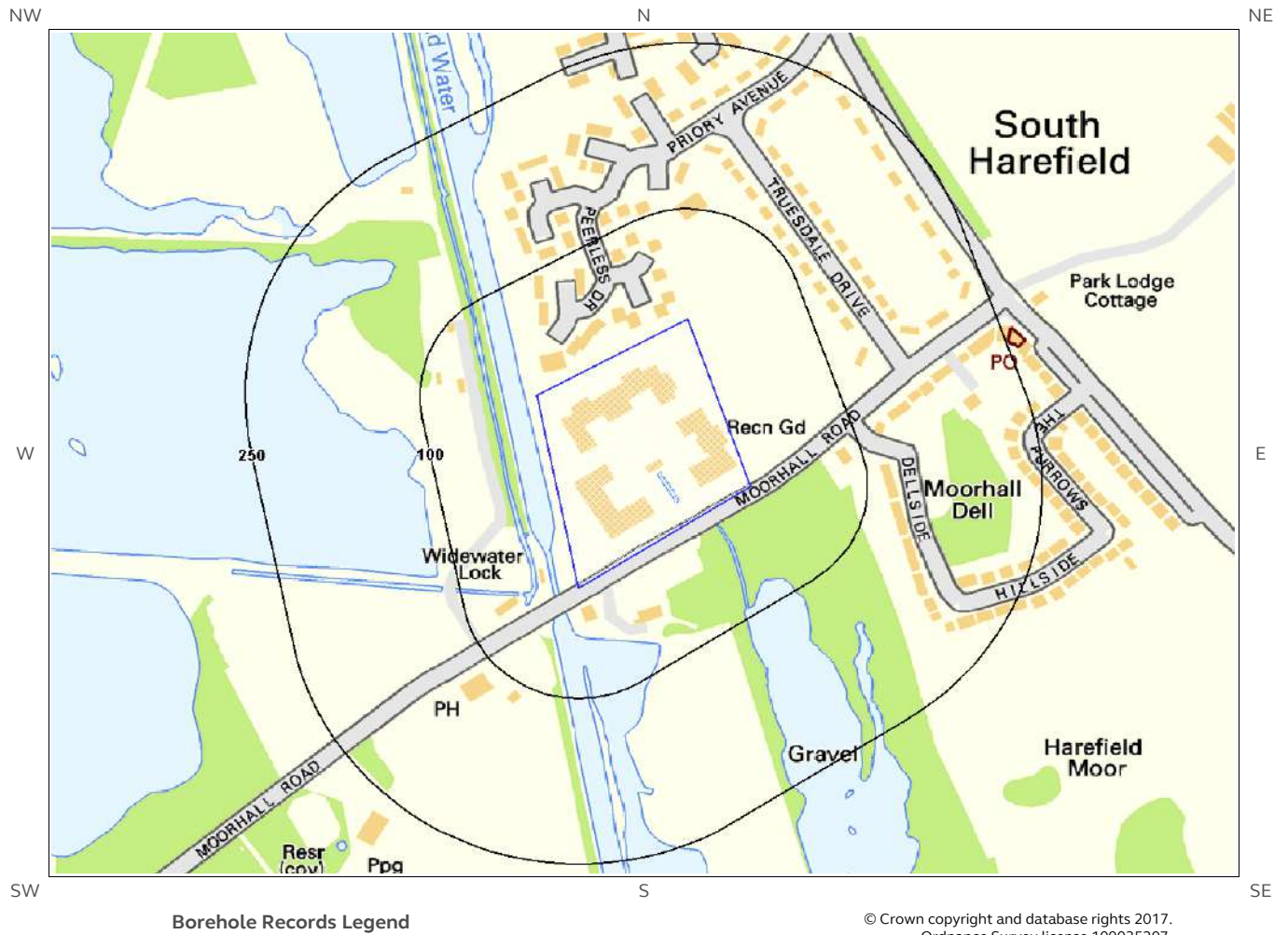
6.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Low	Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build - consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property - no significant increase in insurance risk due to running sand problems is likely.

ID	Distance (m)	Direction	Hazard Rating	Details
2	0.0	On Site	Low	Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build - consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property - no significant increase in insurance risk due to running sand problems is likely.
3	29.0	NE	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
4	34.0	SE	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
5	40.0	S	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

7 Borehole Records Map



7 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

0

Database searched and no data found.

8 Estimated Background Soil Chemistry

Records of background estimated soil chemistry within 250m of the study site boundary:

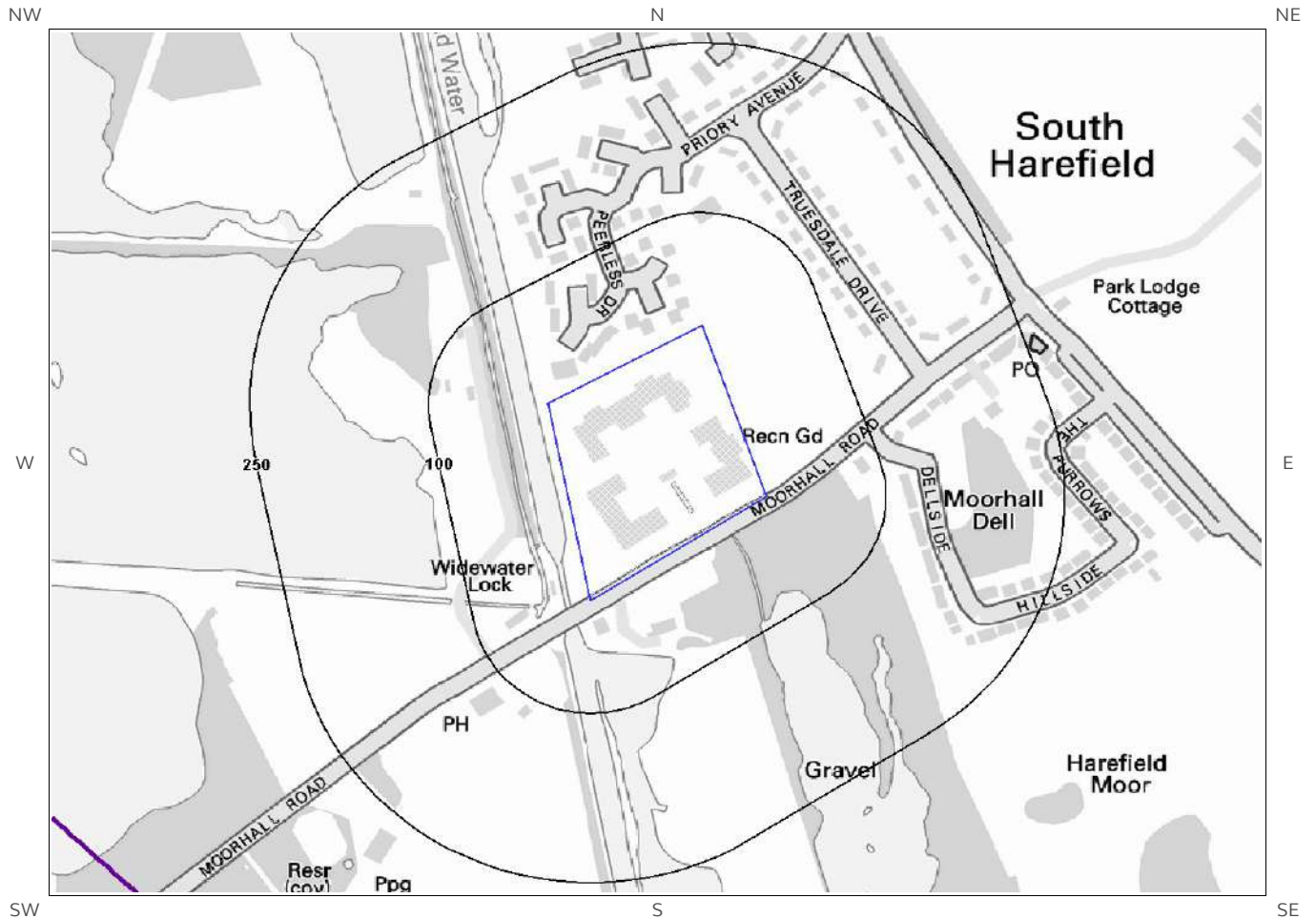
10

For further information on how this data is calculated and limitations upon its use, please see the Groundsure Geo Insight User Guide, available on request.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	London	No data	<1.8 mg/kg	No data	No data	<100 mg/kg
0.0	On Site	London	No data	<1.8 mg/kg	No data	No data	<100 mg/kg
29.0	NE	London	No data	<1.8 mg/kg	No data	No data	<100 mg/kg
34.0	SE	London	No data	<1.8 mg/kg	No data	No data	<100 mg/kg
40.0	S	London	No data	<1.8 mg/kg	No data	No data	<100 mg/kg
48.0	N	London	No data	<1.8 mg/kg	No data	No data	<100 mg/kg
48.0	N	London	No data	<1.8 mg/kg	No data	No data	<100 mg/kg
48.0	N	London	No data	<1.8 mg/kg	No data	No data	<100 mg/kg
48.0	N	London	No data	<1.8 mg/kg	No data	No data	<100 mg/kg

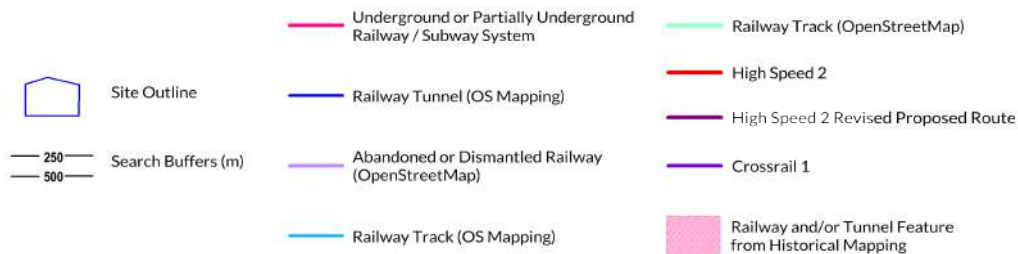
*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

9 Railways and Tunnels Map



Railways and Tunnels Legend

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9 Railways and Tunnels

9.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary? No

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary? No

Have any other railway tunnels been identified within 250m of the site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

9.2 Historical Railway and Tunnel Features

This data is derived from Groundsure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? No

Have any historical railway or tunnel features been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

9.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary? No

Have any historical railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels Map.

9.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary? No

Have any active railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels Map.

9.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail 1 .

Is the study site within 5km of the route of the High Speed 2 rail project? Yes

Is the study site within 500m of the route of the Crossrail 1 rail project? No

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a Groundsure HS2 and Crossrail 1 Report.

The route data has been digitised from publicly available maps by Groundsure. The route as provided relates to the Crossrail 1 project only, and does not include any details of the Crossrail 2 project, as final details of the route for Crossrail 2 are still under consultation.

Please note that this assessment takes account of both the original Phase 2b proposed route and the amended route proposed in 2016. As the Phase 2b route is still under consultation, Groundsure are providing information on both options until the final route is formally confirmed. Practitioners should take account of this uncertainty when advising clients.

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